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SYSTEMS CONTROL TECHNOLOGY, INC.

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AD-A220 502

CORPS HELICOPTER ATTACK PLANNING SYSTEM
(CHAPS)

STUDENT'S TRAINING COURSE GUIDE

Prepared For:

Department of the Army
Joint Tactical Fusion Program
1500 Planning Research Drive
McLean, VA 22102-5099

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Prepared By:

Systems Control Technology, Inc.
Mission Effectiveness Department

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Approved By:



Peter D. Bernstein
CHAPS Project Manager

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| 19. ABSTRACT (Continue on reverse if necessary and identify by block number) This document was developed as a hands-on student training manual for the US Army's CORPS Helicopter Attack Planning System (CHAPS). There are five manuals for CHAPS. CHAPS was developed by Systems Control Technology, Inc, Palo Alto, CA for the Joint Tactical Fusion Program Management Office (JTFFMO). CHAPS is a derivative of USAFE's Force Level Automated Planing System (FLAPS) and was extensively modified to incorporate US Army attack helicopters. The CHAPS program consists of two major stand-alone software programs: the SUPR program which defines a 3-D real-world statespace area where the helicopters would operate; and CHAPS which provides survivability estimates for attacking helicopters given a specific battlefield scenario and real-world threat. This manual compliments the CHAPS Instructor/Lesson Guide and Positional Handbook by describing CHAPS' basic operating commands that are used with the JTFFMO's Portable Analyst Workstation (PAWS), presenting actual color screen output displays, and providing examples of CHAPS output messages. This document provides an excellent pictorial of CHAPS' output capabilities. | | | |
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All other editions are obsolete.

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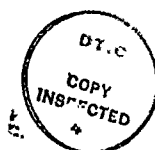
CHAPS STUDENT : TRAINING COURSE GUIDE

TABLE OF CONTENTS

- 1 INTRODUCTION TO CHAPS
- 2 GETTING STARTED IN CHAPS
- 3 MODIFYING THE CHAPS DATABASE
- 4 CHAPS DISPLAYS
- 5 CREATING MINIMUM RISK ROUTES
- 6 MODIFYING ROUTES WITH MANUAL
- 7 OBSERVING ROUTE COORDINATION
- 8 THREAT SUPPRESSION WITH CHAPS
- 9 CREATING AND UPDATING A STATESPACE

LESSON 1 INTRODUCTION TO CHAPS NOTE TAKING SHEET NO. 1

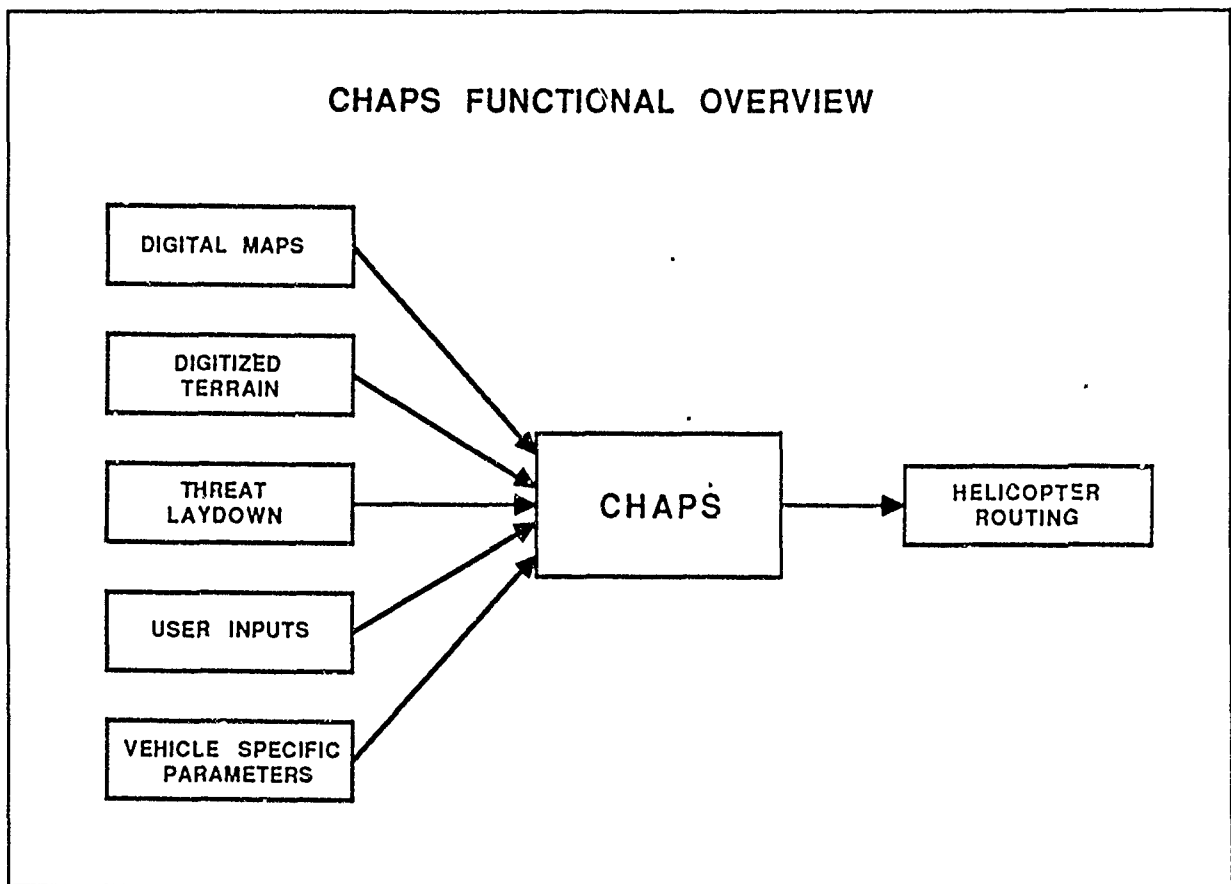
I. INTRODUCTION



| | |
|--------------------|-------------------------------------|
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| NTIS GRA&I | <input checked="" type="checkbox"/> |
| DTIC TAB | <input type="checkbox"/> |
| Unannounced | <input type="checkbox"/> |
| Justification | |
| By | |
| Distribution/ | |
| Availability Codes | |
| Dist | Avail and/or Special |
| A-1 | |

A. Purpose

B. Functions



1. Minimum risk routes

2. Displays

3. Modify routes

4. Suppress threats

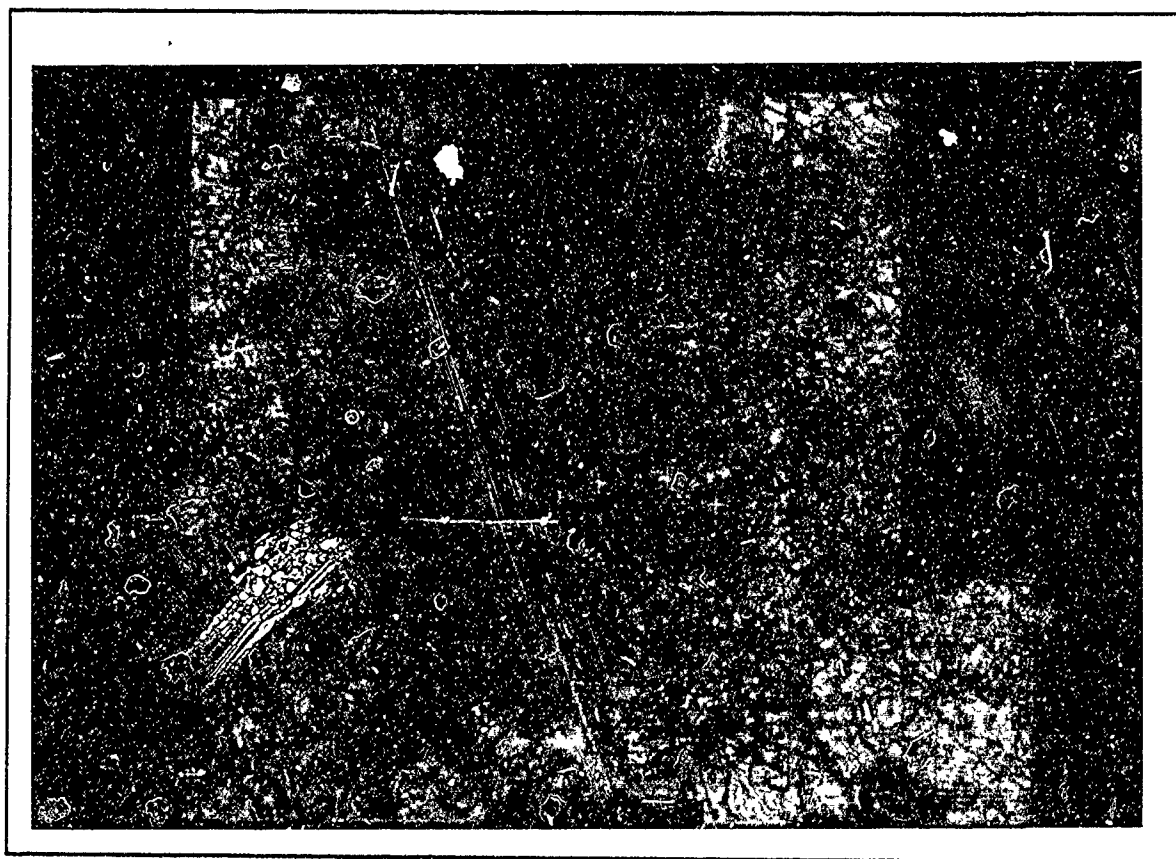
5. Detailed analysis of routes

6. Route coordination

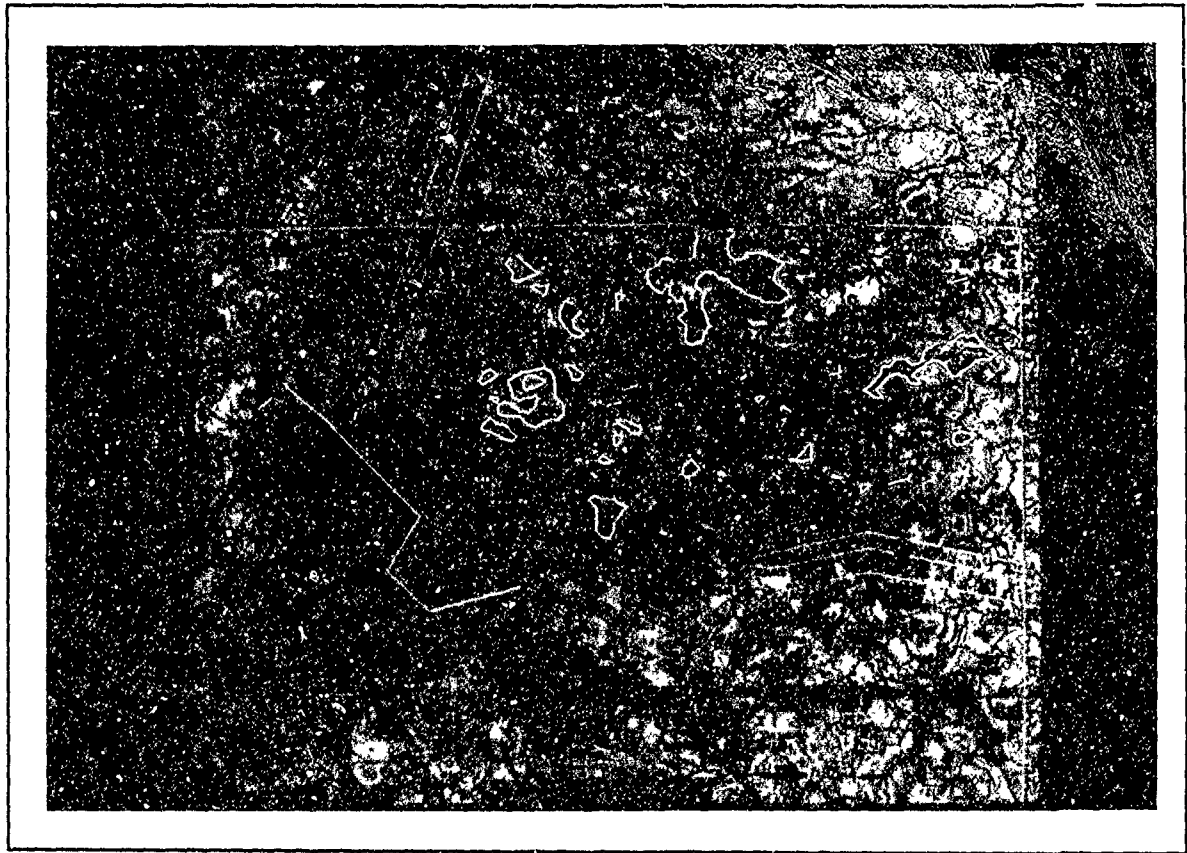
II. CAPABILITIES

A. Overview

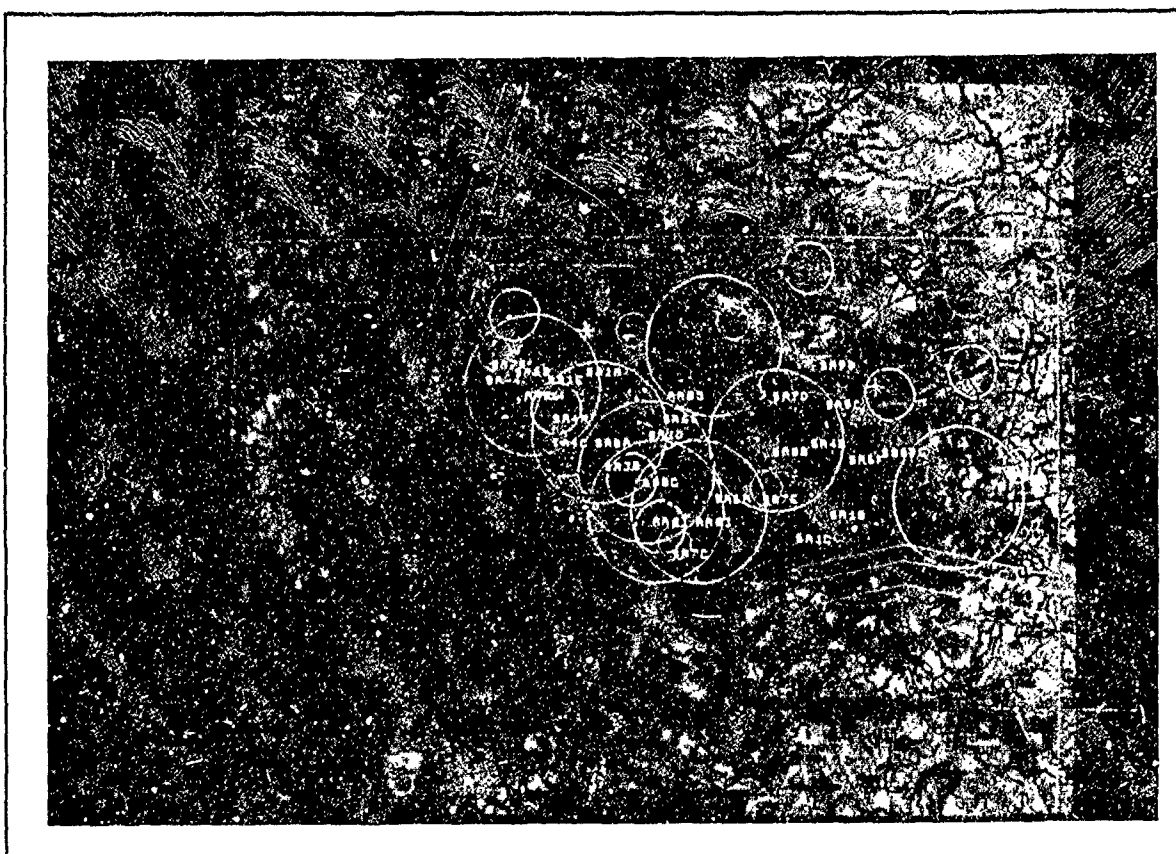
B. Digitized map background



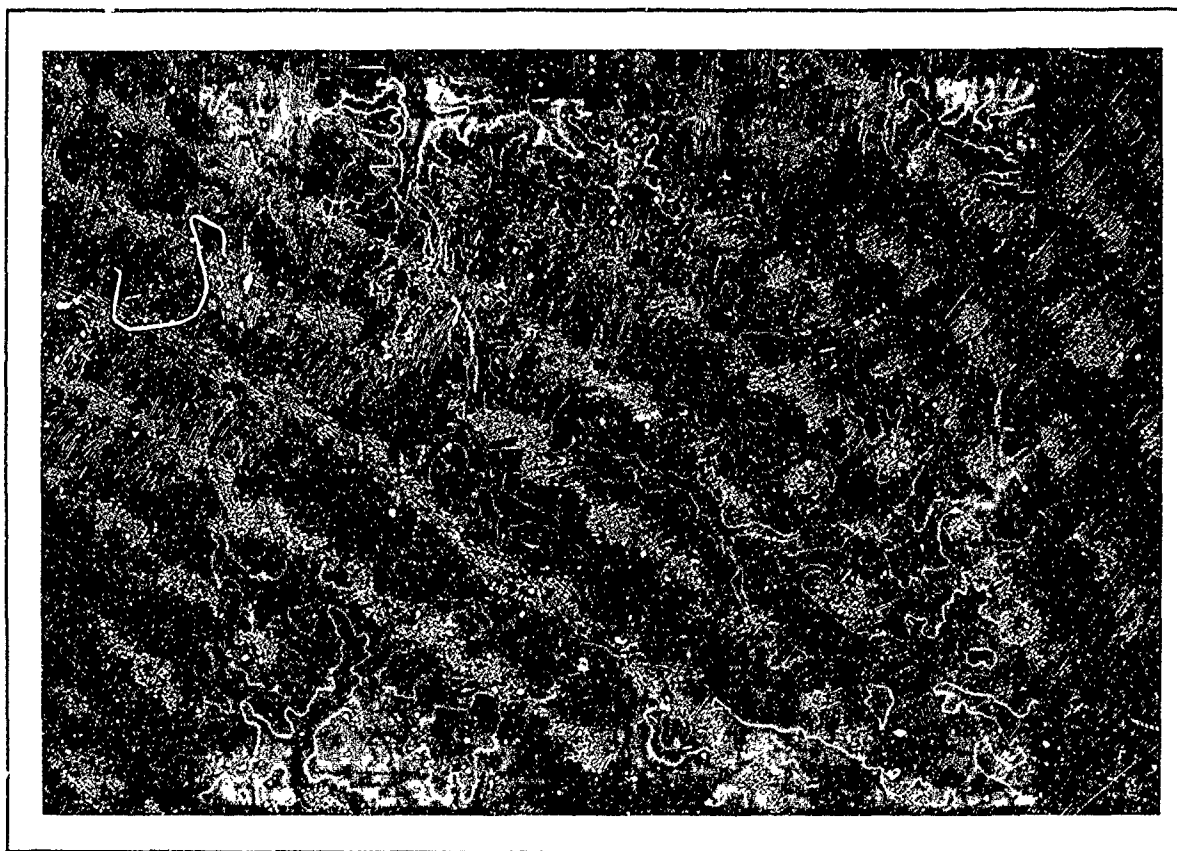
C Minimum risk routes



1. Relative lethality and threat position data



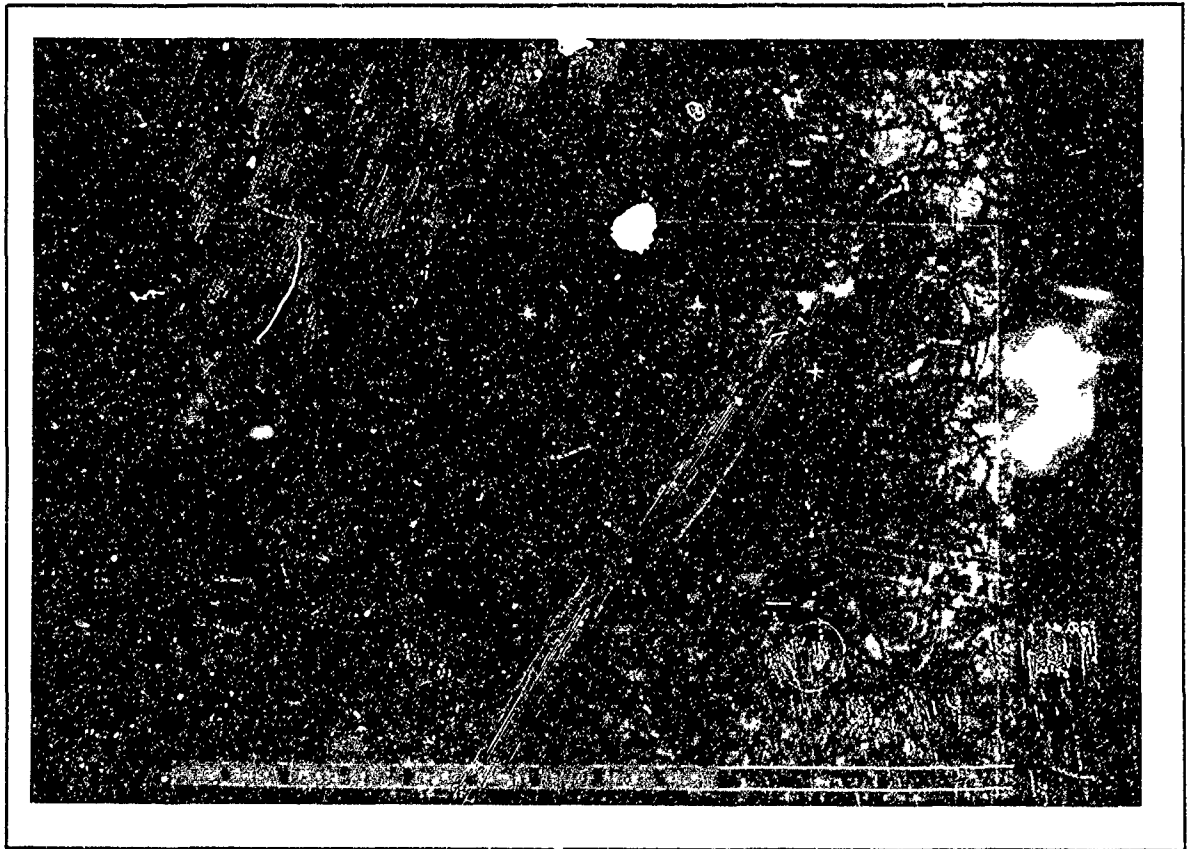
2. Terrain masking effects



3. Multiple pass DPA

D. Route Modification

1. Add or delete waypoints



2. Fuel consumption and danger

E. Threat suppression

1. Statespace suppression

2. Rerouting capability

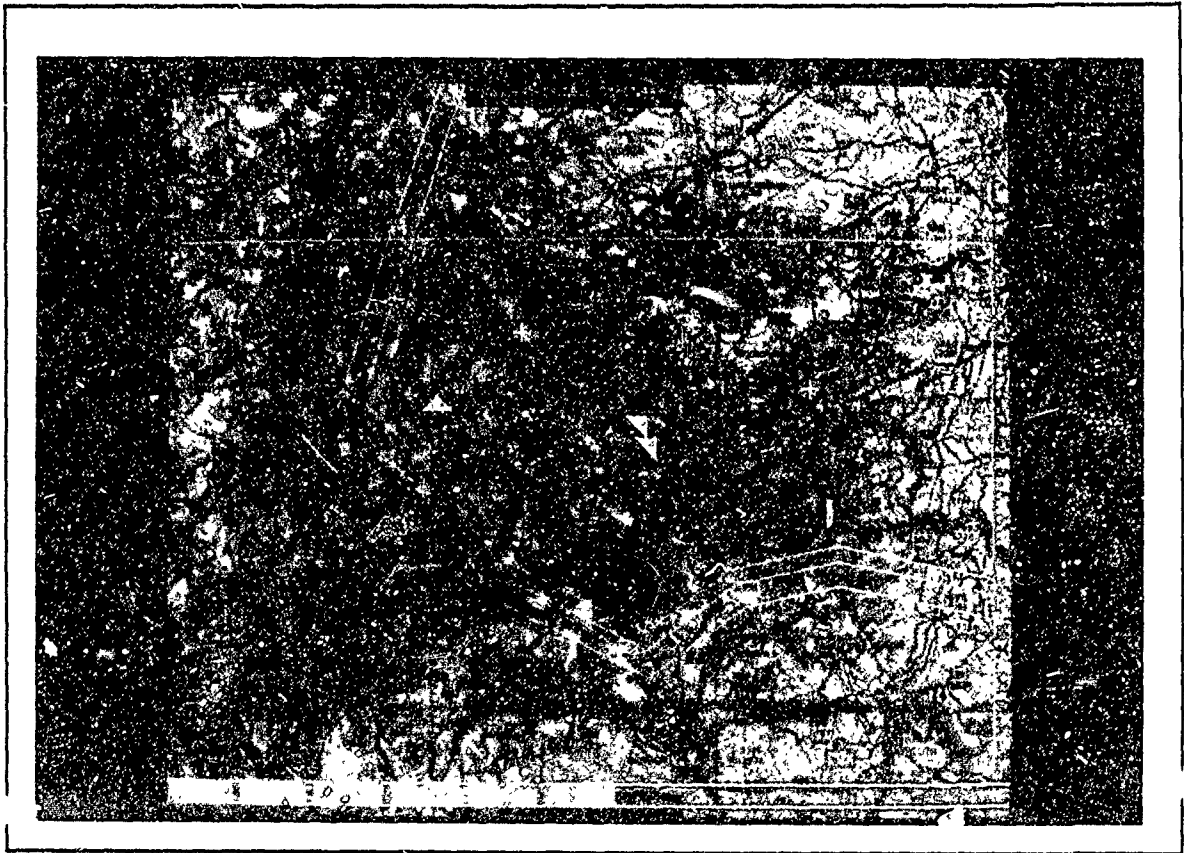
F. Route Analysis

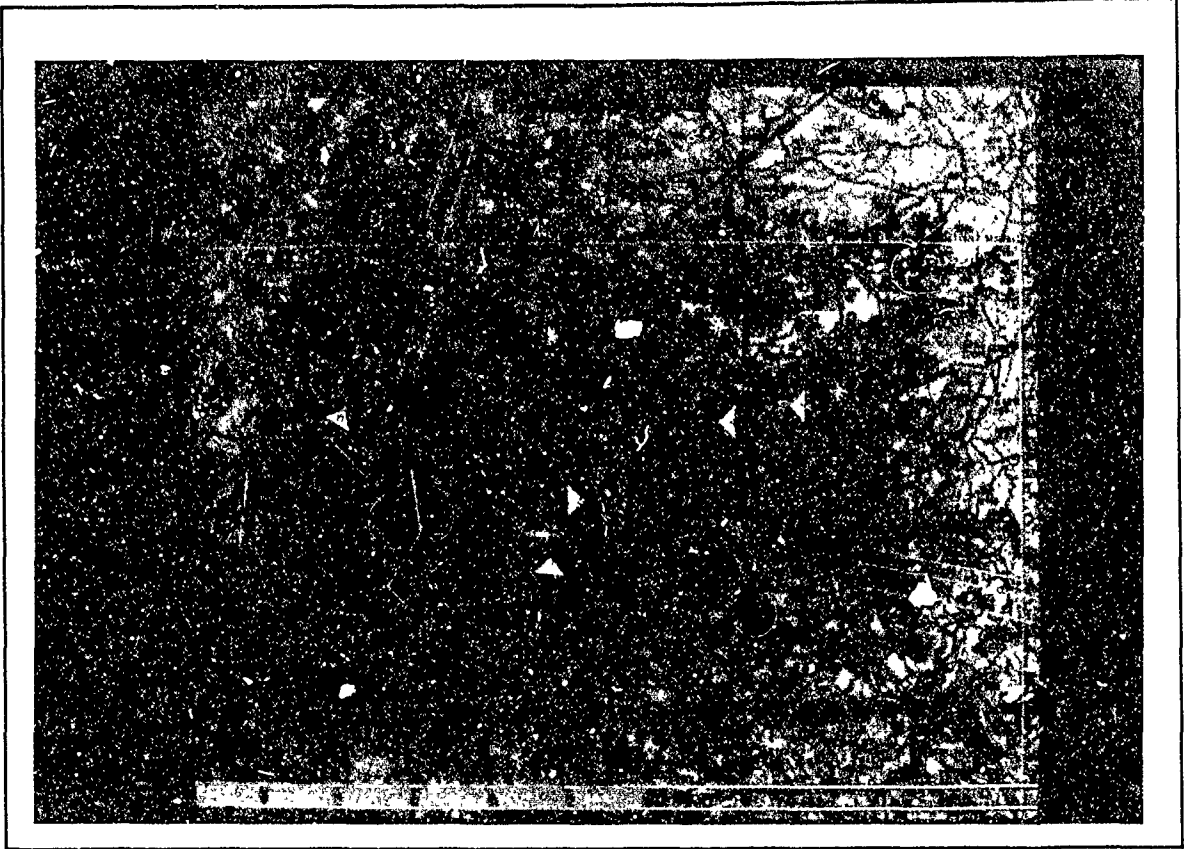
1. Leg-to-leg

G. Multi-route in-flight coordination

1. Auto-generated or modified routes

2. Enroute deconfliction





LESSON 2 GETTING STARTED IN CHAPS
NOTE TAKING SHEET NO. 2

I. INTRODUCTION

II. THE PAWS CONFIGURATION

A. Mouse

B. Displays

C. Logging in

D. Running CHAPS

III. POP-UP MENUS

A. Getting the first menu

B. Selecting items

1. Highlighting
2. Color changes
3. Moving windows
4. Scroll bars
5. Exiting
6. Input boxes

IV. TEXT MENUS

A. Selecting

B. Type ahead

C. Paging

D. Toggles

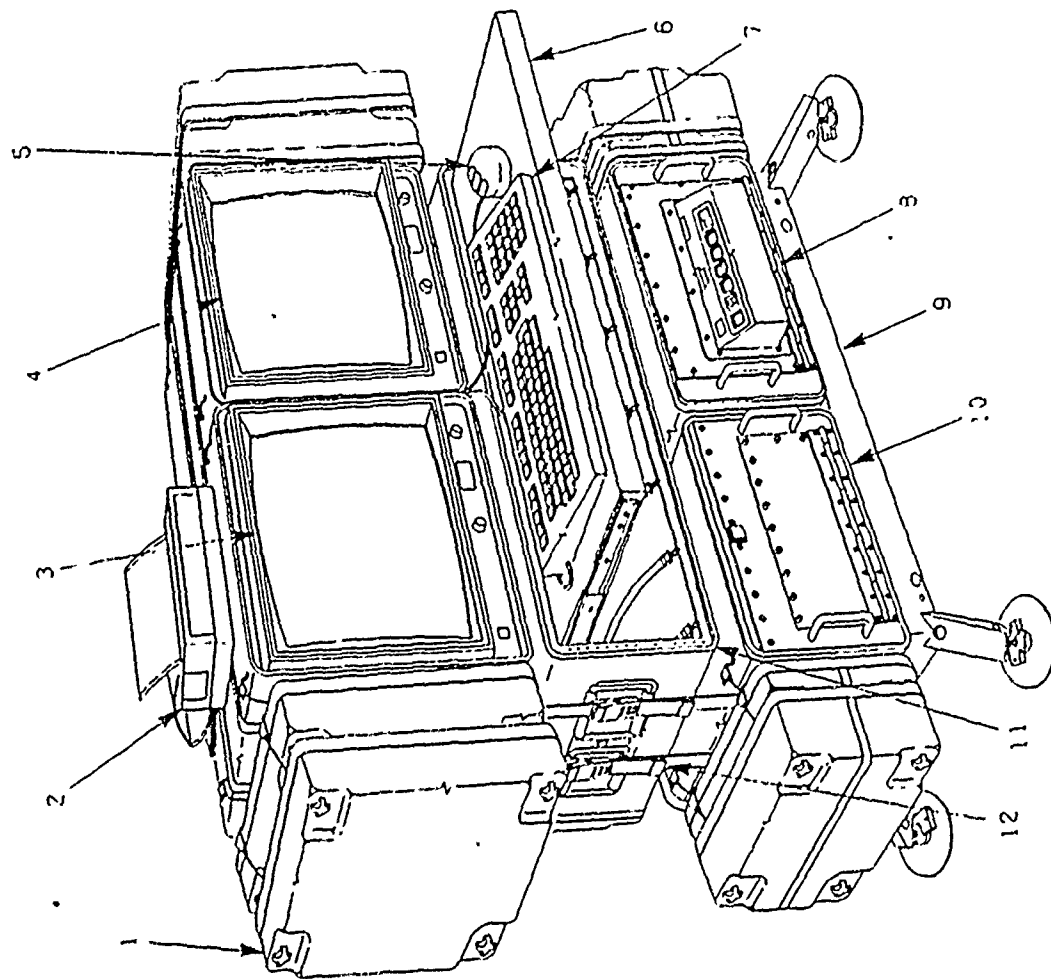
E. Active windows

V. MESSAGES

A. User response

B. Documentation

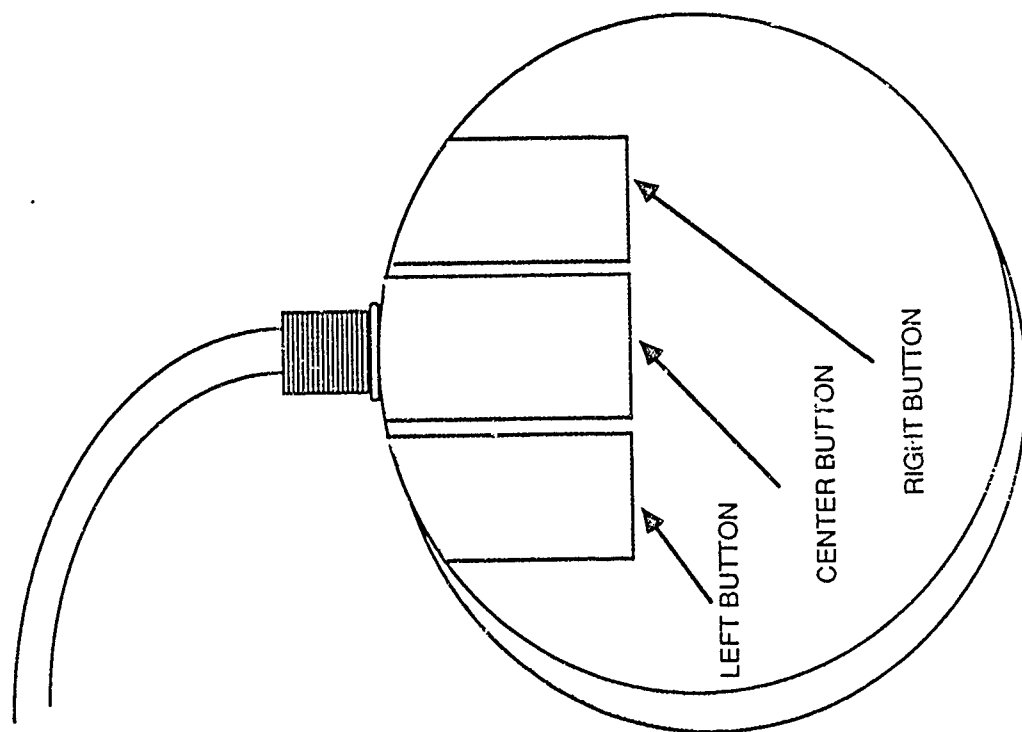
PAWS WORKSTATION CONFIGURATION



LEGEND

1. TRANSIT CASE COVER
2. PRINTER
3. TEXT GRAPHICS MONITOR ASSEMBLY (TCMA)
4. VIDEO GRAPHICS MONITOR ASSEMBLY (VGMA)
5. MOUSE
6. WORK SURFACE ASSEMBLY (WSA)
7. KEYBOARD
8. PROCESSOR ASSEMBLY (PA)
9. LEVELING BASE ASSEMBLY (LBA)
10. VIDEO ASSEMBLY (VA)
11. STORAGE ASSEMBLY (SA)
12. ADJUSTABLE STRAP

PAWS WORKSTATION MOUSE



```
*****  
*  
* AN / TYQ - 37  
* PORTABLE ASAS WORKSTATION (PAWS)  
*  
* SOFTWARE BASELINE 1.1  
*  
*****  
* See PAWS Ver 1.1 Doc Set for Available Capabilities *  
*****  
Username: JTF  
Password:  
Last interactive login on Friday, 13-JAN-1989 08:36  
Last non-interactive login on Thursday, 22-SEP-1988 13:13  
%SYSTEM-W-NONEXPR, nonexistent process  
%SYSTEM-W-NONEXPR, nonexistent process  
type 'cl' to clear parallax screen  
type 'gf p1' to get 'p1'.for from current integration  
$ jeff.  
$ run/nodebu [jtf.rich]chaps  
READ IN PREVIOUS FILES? (Y/N)
```

CHAPS MAIN TEXT MENU

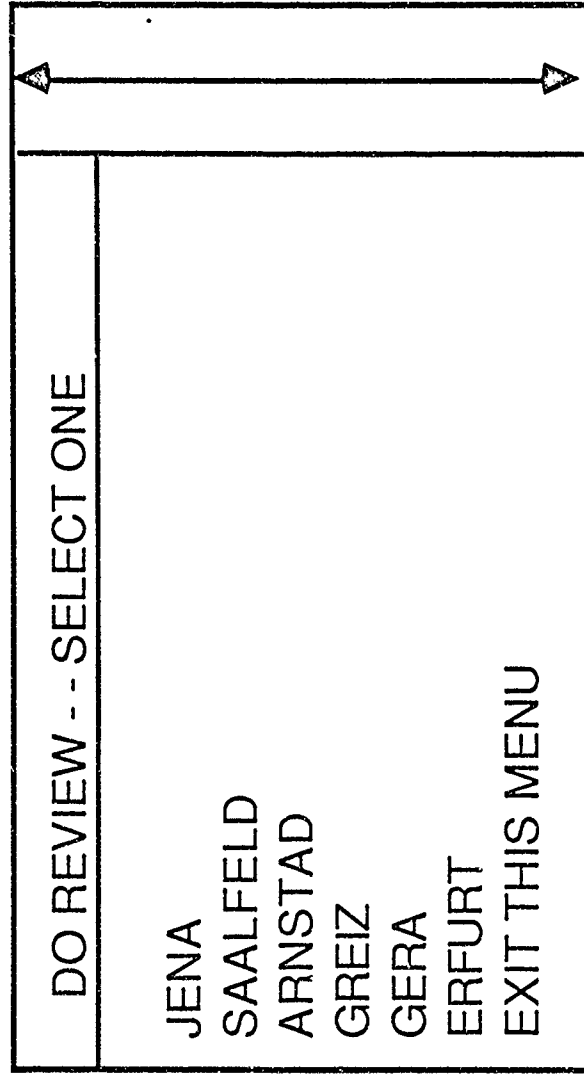
| VI220 Terminal | | KB |
|-----------------------|------------------------------|---------------------|
| TASK = | 120801 | 1 |
| T0BS = | 3620400 | 1 |
| TREE = | 90511 | 1 |
| MASK = | 1 | 185 |
| IHDR= | 8. | 49. |
| | | 12. |
| | | 51. |
| | | 600 |
| | | 1200 |
| | | 8 |
| | | 16 |
| UNCLASSIFIED US ARMY | | |
| MAIN : SELECT COMMAND | | |
| F1--DATABASE | - DATA BASE COMMANDS | (DA) |
| F2--DISPLAY | - DISPLAY COMMAND | (DI) |
| F3--PLAN | - CREATE PLAN | (PL) |
| F4--EIFEL | - EIFEL PROCESSING | (EI) |
| F5--SPECIAL | - SPECIAL PROGRAMMER OPTIONS | (SP) |
| F6--PENETRATE | - SELECT PENETRATION ALTIUDE | (PE) |
| S1--HELP | :S2--NEXT PAGE | :S3--GO TO 1ST PAGE |
| S5--GO TO PAGE | :S6--GRAPHICS ON/OFF | :S7--MAIN MENU |
| | :S8--MENU BACKUP | |
| UNCLASSIFIED US ARMY | | |

CHAPS MAIN POP-UP MENU

| MAIN | SECTION ONE |
|----------------|-------------|
| DATABASE | |
| DISPLAY | |
| PLAN | |
| PIFEL | |
| SPECIAL | |
| PERITRAIS | |
| EXIT THIS MENU | |

POP-UP MENU WITH SCROLL BAR

| DO REVIEW -- SELECT ONE |
|--|
| JENA SAALFELD ARNSTAD GREIZ GERA ERFURT EXIT THIS MENU |



SAMPLE MESSAGE

DOMENU05-ERR:

YOU ENTERED THE COMMAND:

DISP

THIS IS NOT ACCEPTABLE. TRY AGAIN.

HIT CARRIAGE RETURN TO CONTINUE, OR ENTER A RESPONSE TO NEXT MENU

SAMPLE MESSAGE DOCUMENTATION

DOMENU05 - YOU ENTERED THE COMMAND:

<CHAR>

THIS IS NOT ACCEPTABLE. TRY AGAIN.

MESSAGE TYPE: ERROR

CAUSE: An invalid command was entered.

PROGRAM ACTION: Return an invalid completion code to the calling subroutine.

USER ACTION REQUIRED: Enter a valid option.

LESSON 3 USING THE DATABASE MANAGER
NOTE TAKING SHEET NO. 3

I. INTRODUCTION

II. TEXT WINDOWS

III. DATABASE STRUCTURE

A. Tables

B. Records

C Items

1. Vector items

2. Parallel vector items

IV. DATABASE FUNCTIONS

A. Add

B. Delete

C. Change

D. Copy

E. Show

F. Write

V. REPORT GENERATOR

A. Show

B. Create

DATABASE TEXT MENU

KB

VI220 Terminal

UNCLASSIFIED US ARMY

UNCLASSIFIED US ARMY

```

DATA BASE : SPECIFY DATA BASE OPERATION      P. 1 OF 1
-----+-----+-----+
F1--DONE      - DONE WITH DATABASE OPERATIONS      (/ )
F2--ADD       - ADD A RECORD TO A TABLE             (AD )
F3--DELETE    - DELETE RECORD(S) FROM A TABLE      (DE )
F4--CHANGE    - CHANGE RECORD(S) FROM A TABLE      (CH )
F5--COPY      - COPY A RECORD IN A TABLE            (CO )
F6--SHOW      - SHOW RECORD(S) OF A TABLE           (SH )
F7--REPORT    - CREATE OR MODIFY A REPORT            (RE )
F8--WRITE     - WRITE CONTENTS OF DATABASE TO OUTPUT FILE (WR )
-----+-----+-----+
S1--HELP      :S2--NEXT PAGE      :S3--GO TO 1ST PAGE :S4--FIND A STRING
S5--GO TO PAGE :S6--GRAPHICS ON/OFF:S7--MAIN MENU   :S8--MENU BACKUP
-----+-----+-----+

```

UNCLASSIFIED US ARMY

DATABASE STRUCTURE CHART

| BASE IDENTIFIER | LATITUDE/ LONGITUDE | NUMBER OF WEAPON TYPES | WEAPONS TYPES | NUMBER OF WEAPONS |
|-----------------|---------------------------|---------------------------|------------------|----------------------|
| UPHA | 51-56-16 N 001-15-30 W | 6 | APHID | 120 |
| | | | ATOLL | 300 |
| | | | KERRY | 500 |
| | | | KAREN | 200 |
| | | | KINGBOLT | 100 |
| | | | SAGGER | 700 |
| LAKE | 52-24-19 N 000-33-01 W | 4 | KERRY | 700 |
| | | | ATOL | 200 |
| | | | KINGBOLT | 100 |
| | | | KELT | 50 |

DATABASE FUNCTIONS SUMMARY

| FUNCTION | TABLE | RECORDS | ITEMS |
|---------------------------|-------|---------|-------|
| Add | X | | X |
| Delete | X | X | |
| Change | X | X | X. |
| Copy | X | X | * |
| Show | X | X | X |
| Write | X | X | |
| * specify identifier only | | | |

REPORT INFORMATION

| Menu | | VT220 Terminal | | KB | |
|---|--------------------------|----------------|-------------|-------------|----------------------|
| HEADERS | DESCRIPTION | UNITS | LOWER BOUND | UPPER BOUND | TABLE ITEM |
| DMPI ID | DMPI ID | ---- | ---- | ---- | DMPI ID |
| DMPI CLAS | CLASSIFICATION (EG. OCA) | ---- | RECE | ---- | DMPI CLAS |
| DMPI TYPE | DMPI TYPE | ---- | ---- | ---- | DMPI TYPE |
| DMPI ACTY | AIRCRAFT TYPE | ---- | ---- | ---- | DMPI ACTY |
| DMPI WPTY | WEAPON TYPE | ---- | ---- | ---- | DMPI WPTY |
| DMPI DSOL | DESCPTN OF SOLIN STATUS | ---- | ---- | ---- | DMPI DSOL |
| HIT CARRIAGE RETURN TO CONTINUE, TYPE Q TO QUIT | | | | | |
| DMPI ID | DMPI CLAS | DMPI TYPE | DMPI ACTY | DMPI WPTY | DMPI DSOL |
| RECE1 | RECE | RECE | OH-58D | PHOTO | PASSED WEAPONNEERING |
| RECE2 | RECE | RECE | OH-58D | PHOTO | PASSED WEAPONNEERING |
| RECE3 | RECE | RECE | OH-58D | PHOTO | PASSED WEAPONNEERING |
| HIT CARRIAGE RETURN TO SEE REPORT PROC. MENU OR IF YOU WISH TO TYPE AHEAD, ENTER SELECTION | | | | | |

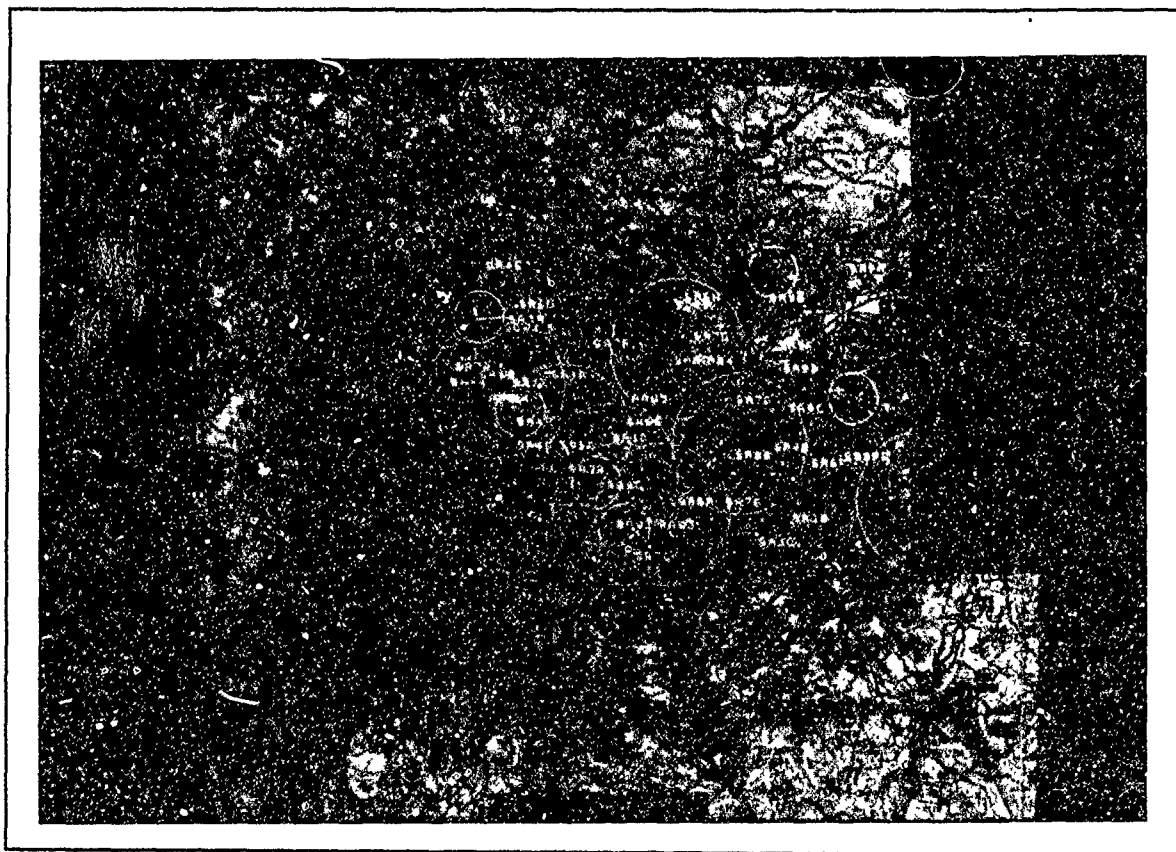
LESSON 4 THE CHAPS DISPLAY
NOTE TAKING SHEET NO. 4

I. INTRODUCTION

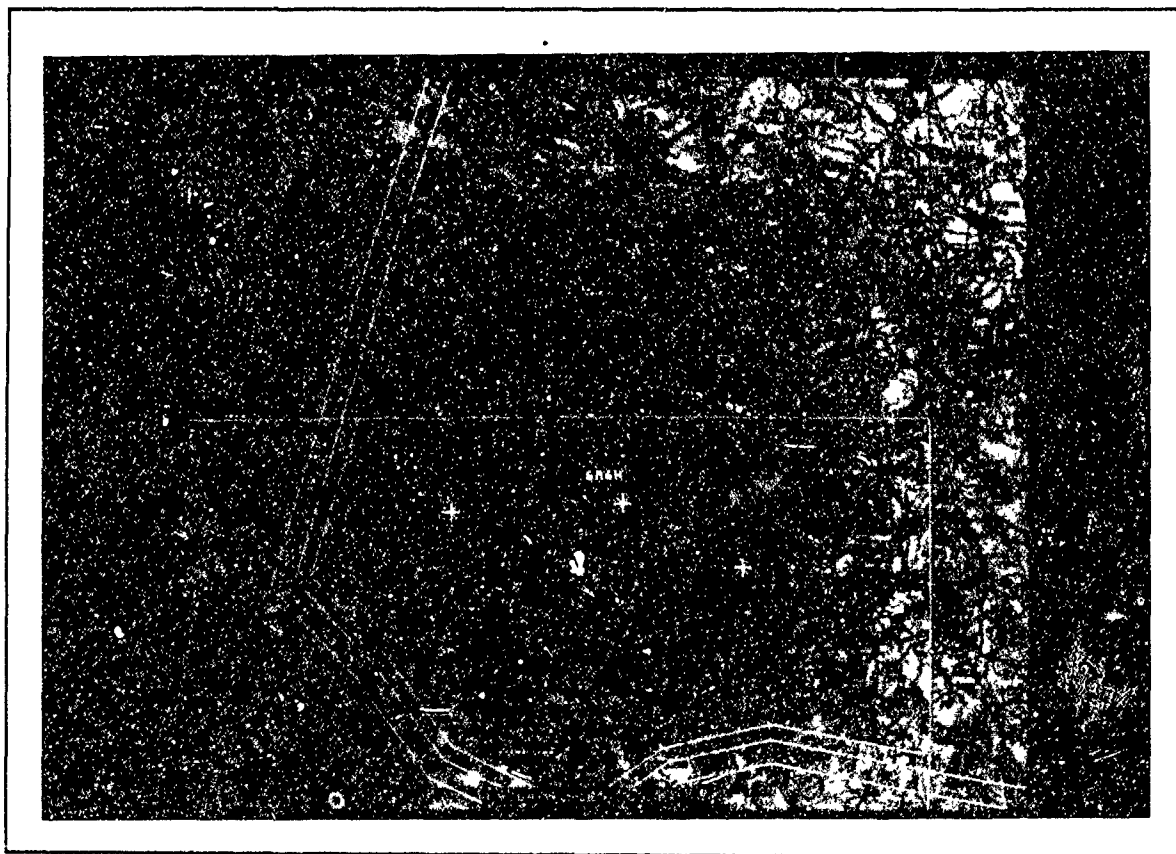
II. GRAPHICS DISPLAYS

A. Select threats

B. Circles



C Exposure

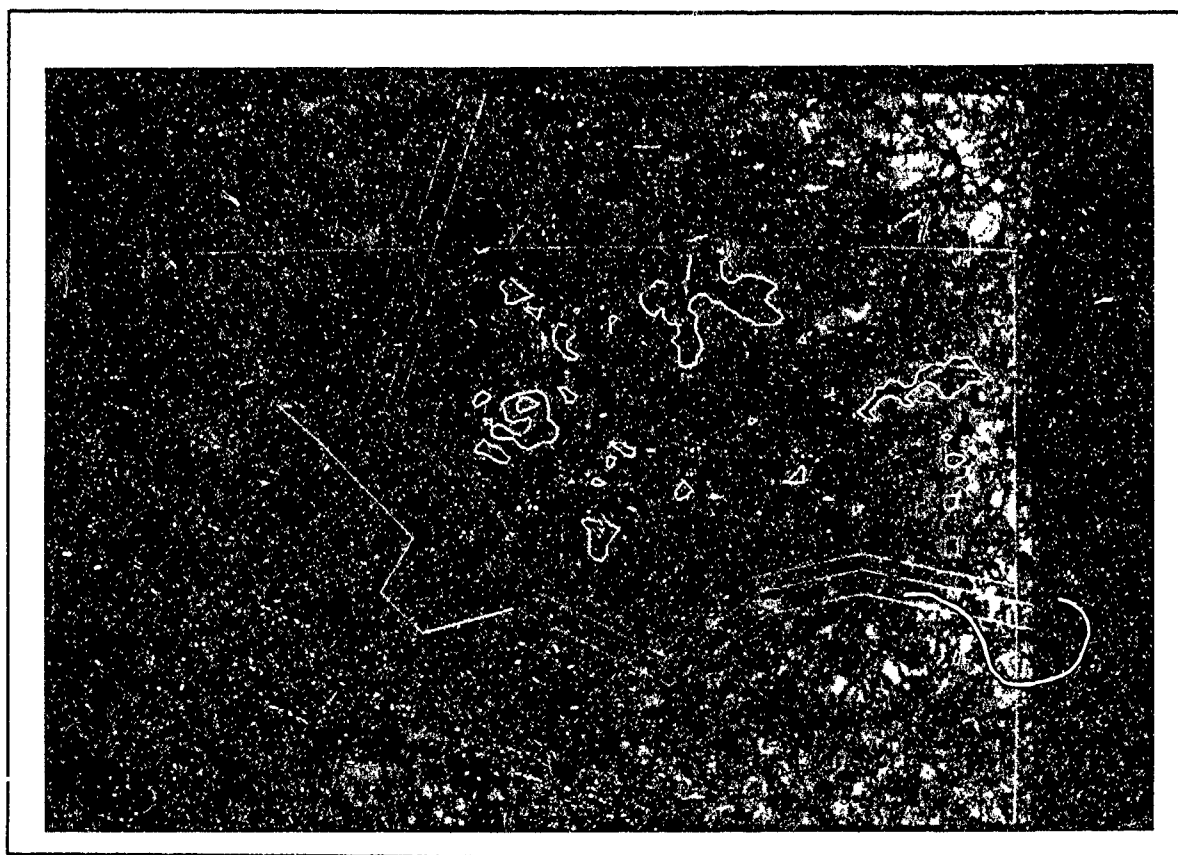


D. Threat IDs

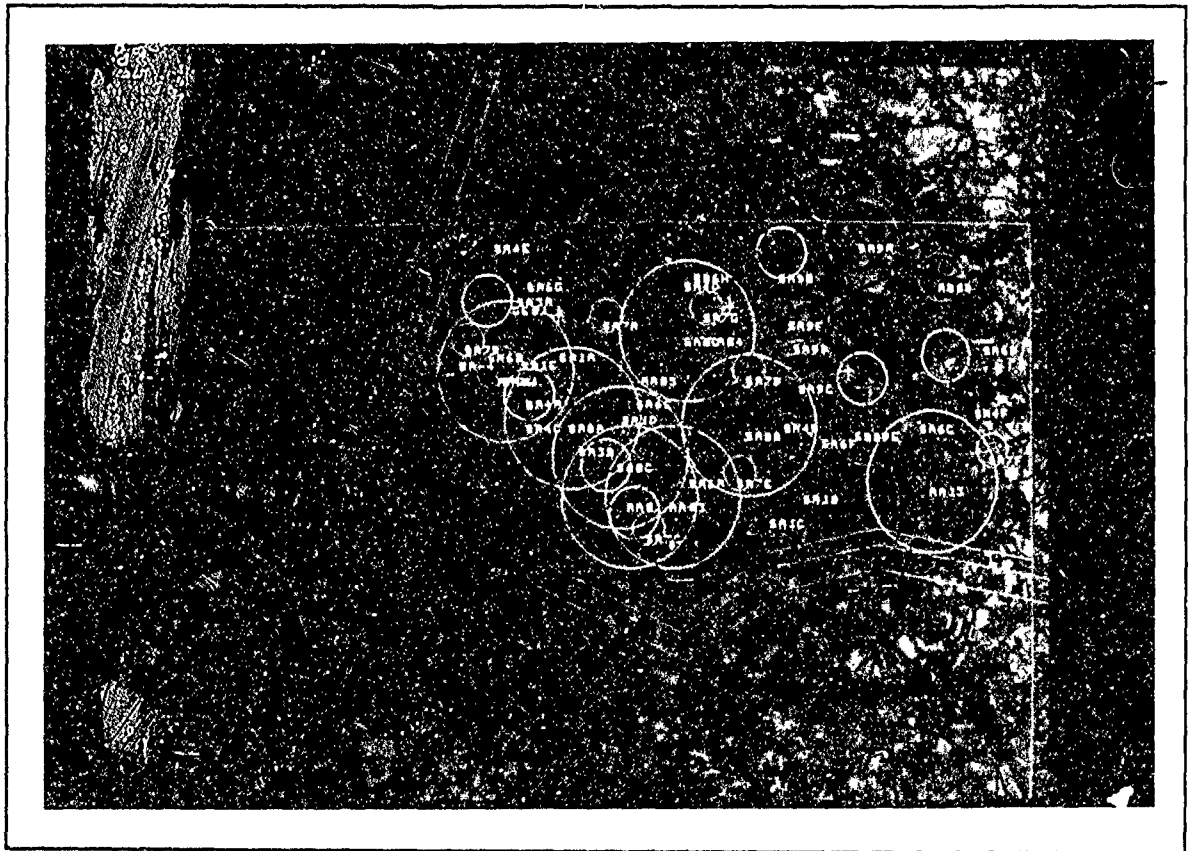
E. Danger



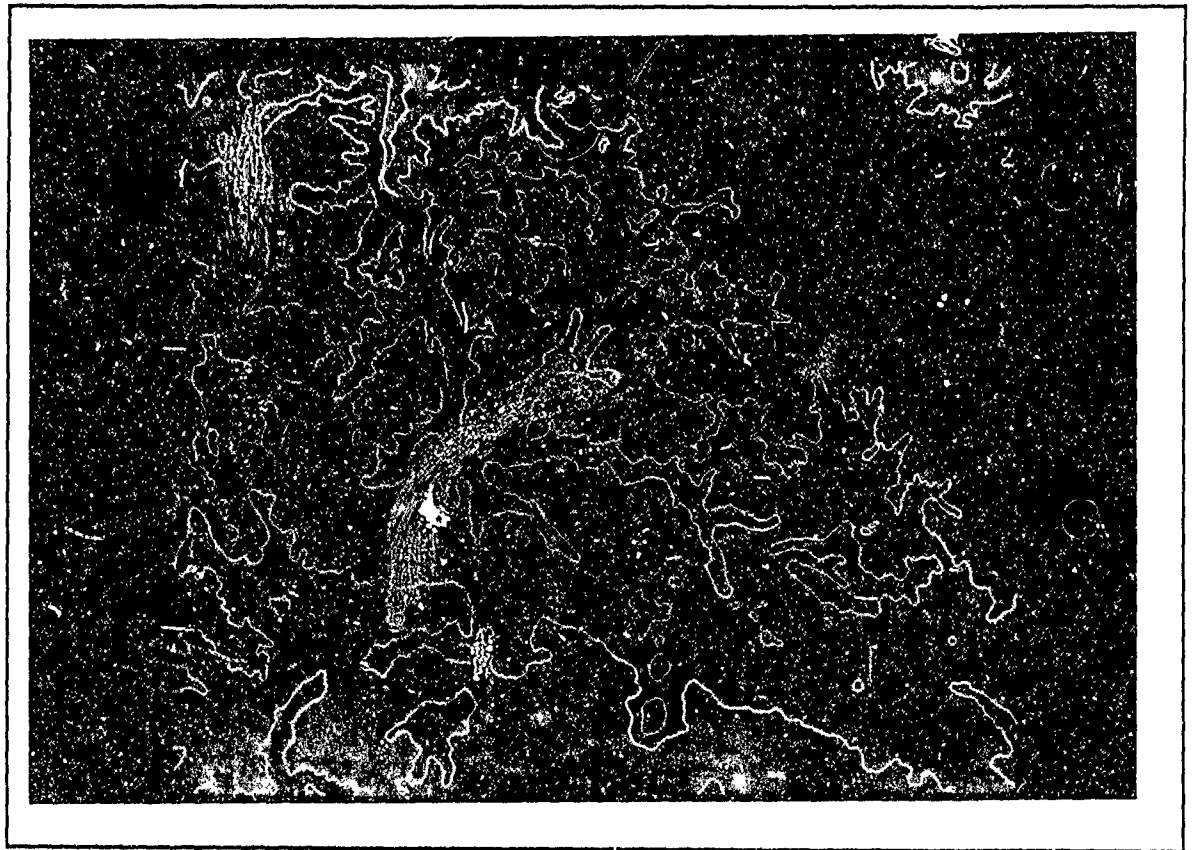
F. Plan



G. Legend

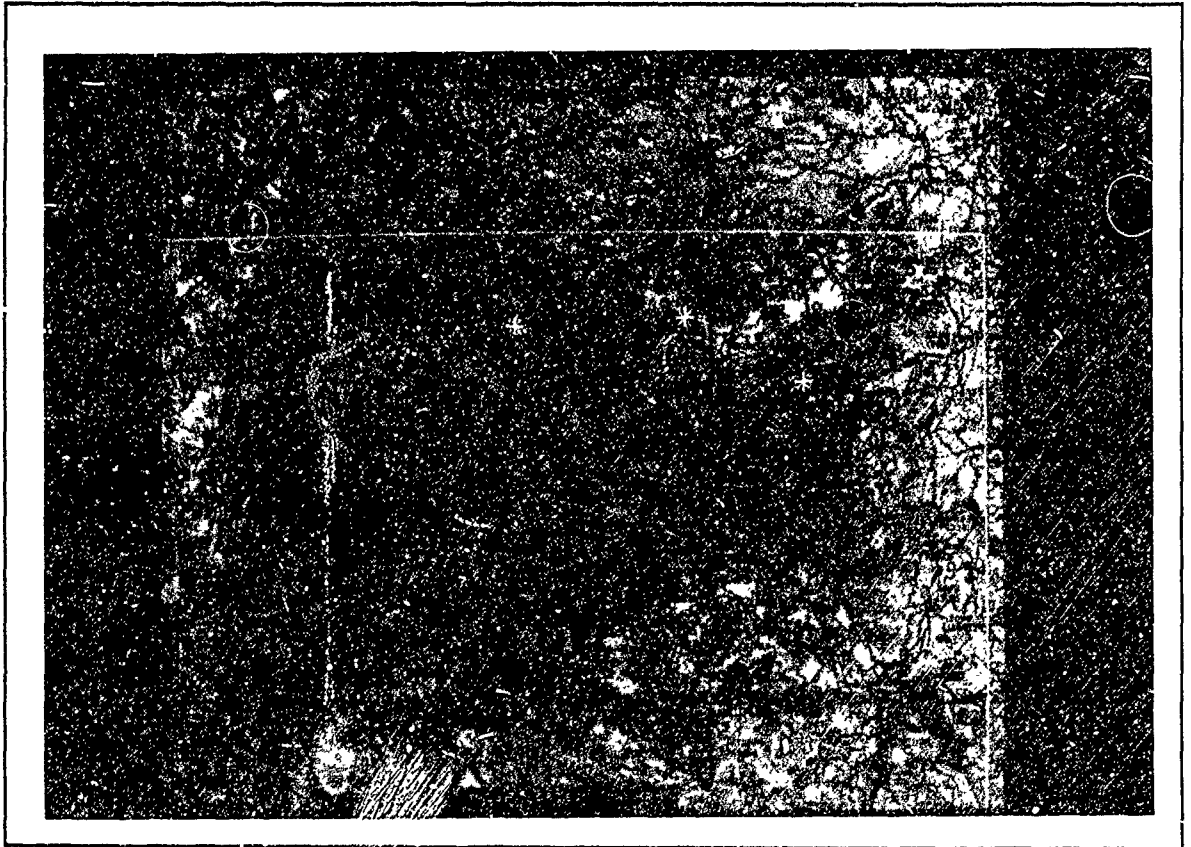


H. Terrain

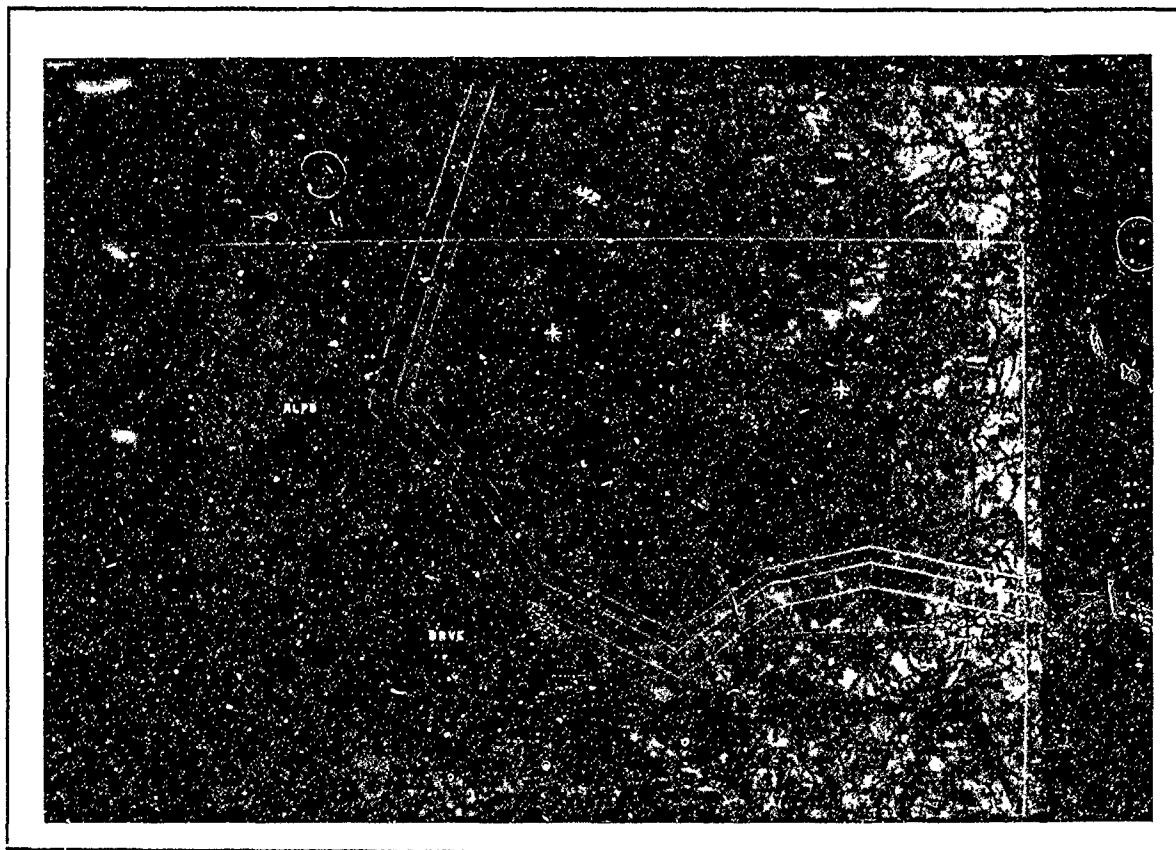


I. Features

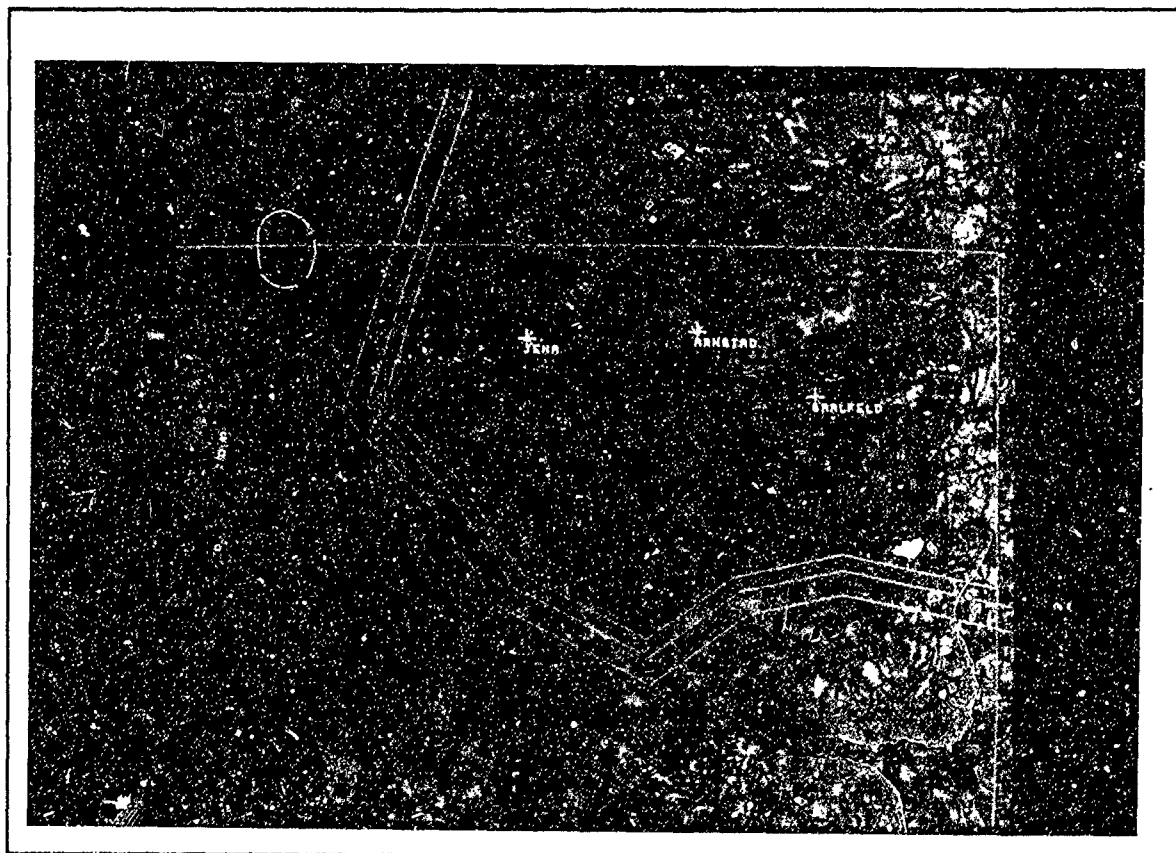
J. FLOT



K Bases

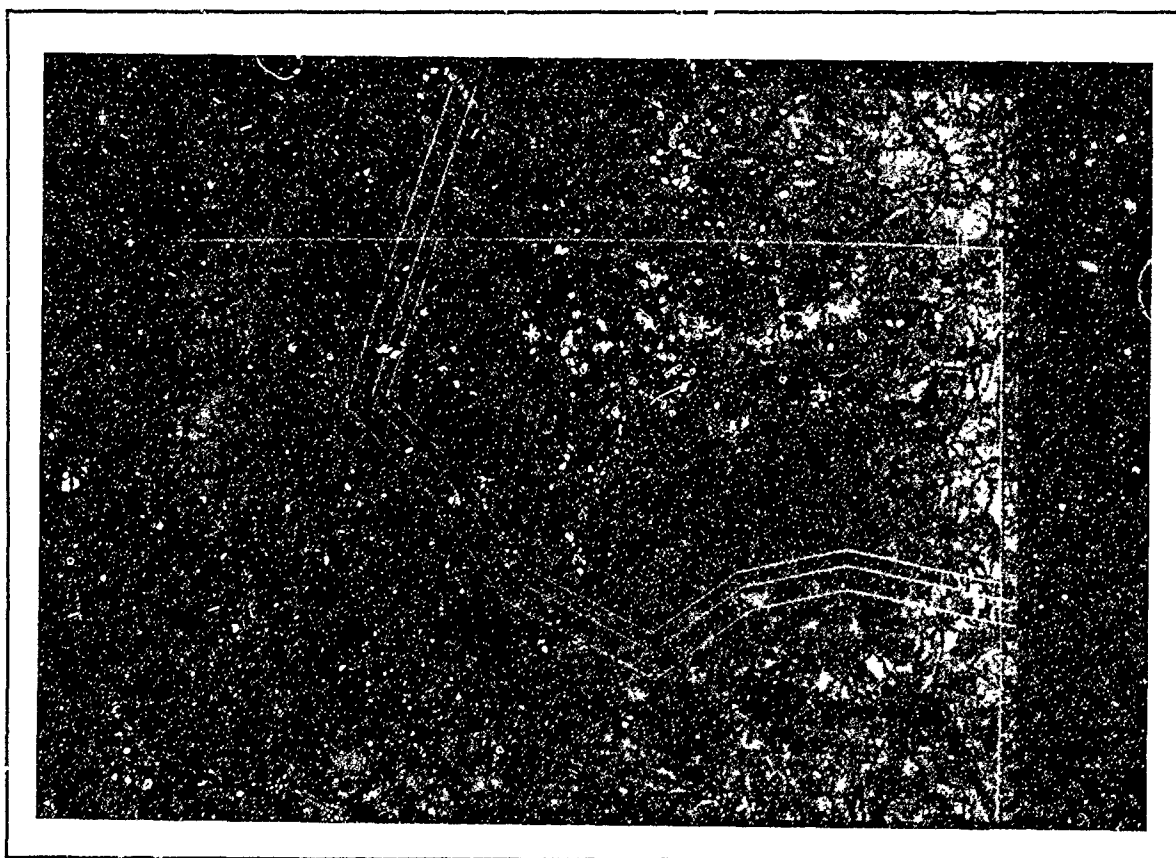


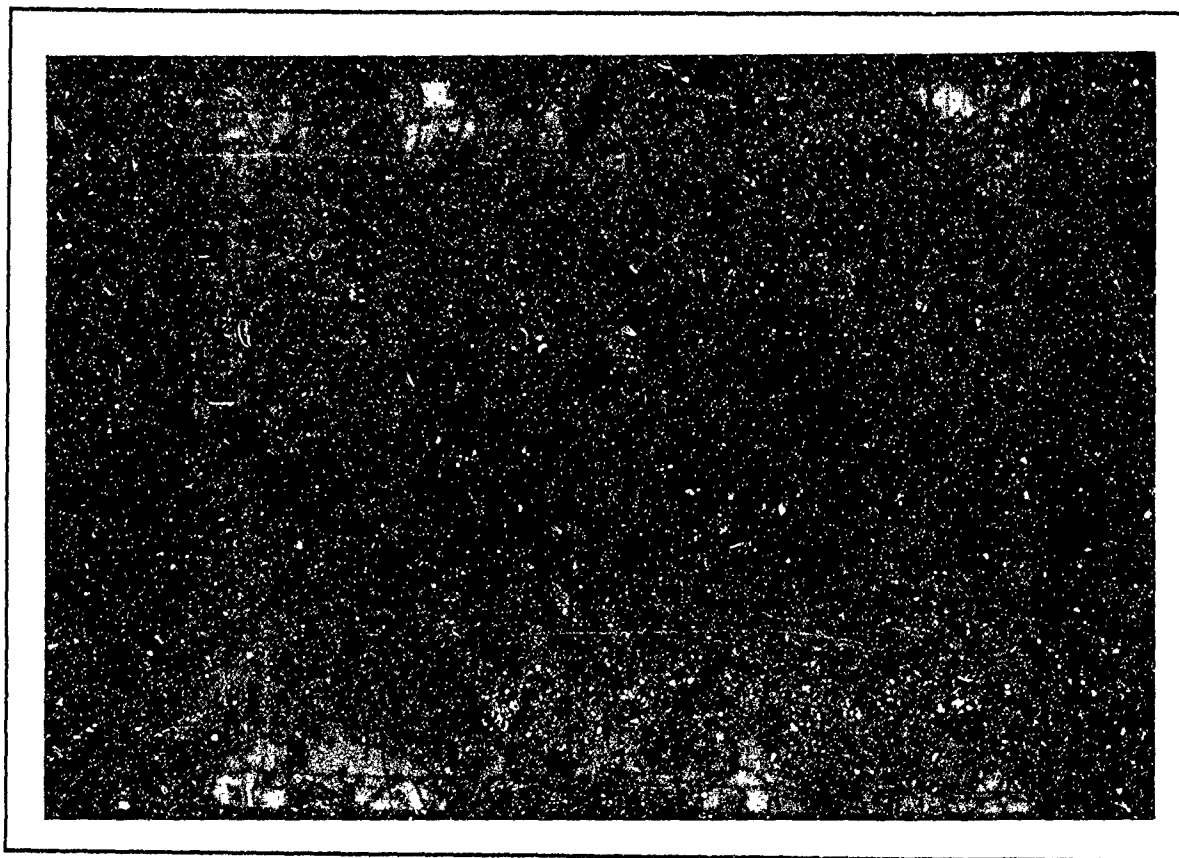
L. Targets



III. MAP DISPLAYS

A. Map scales

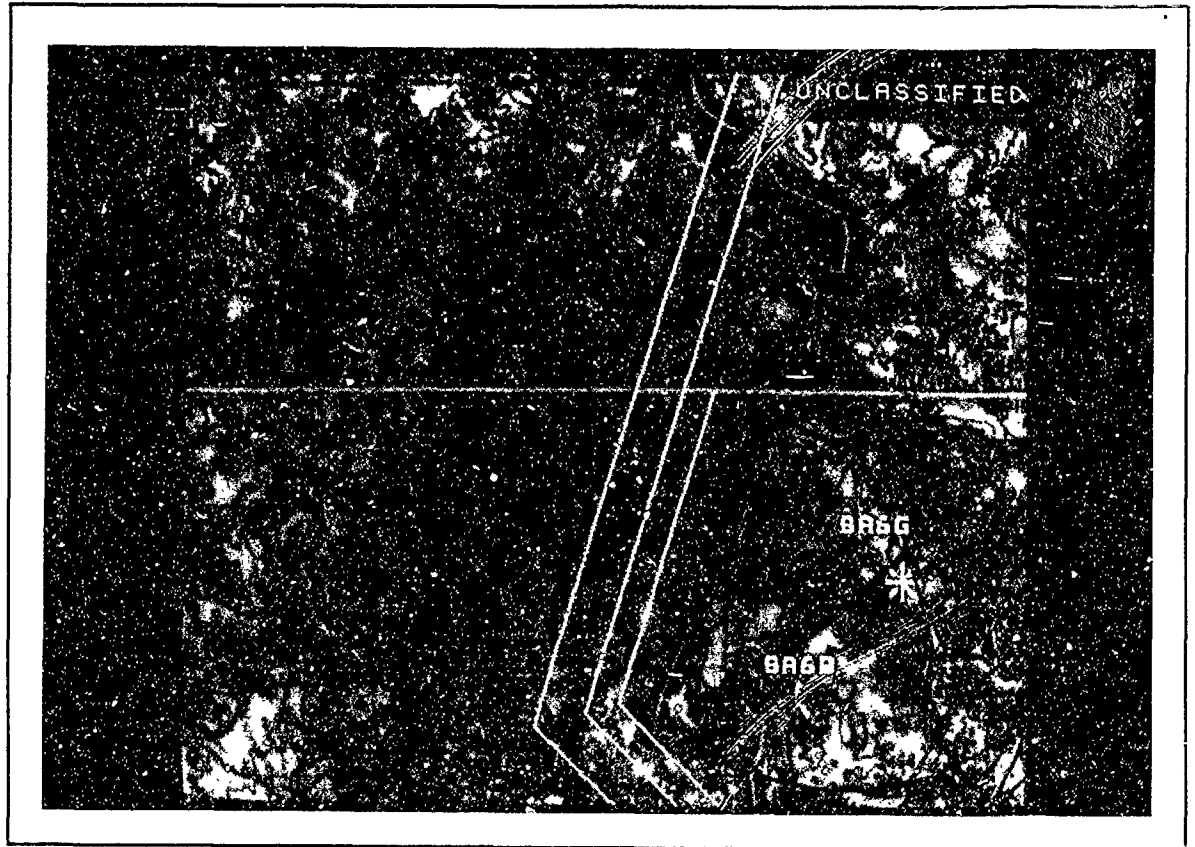




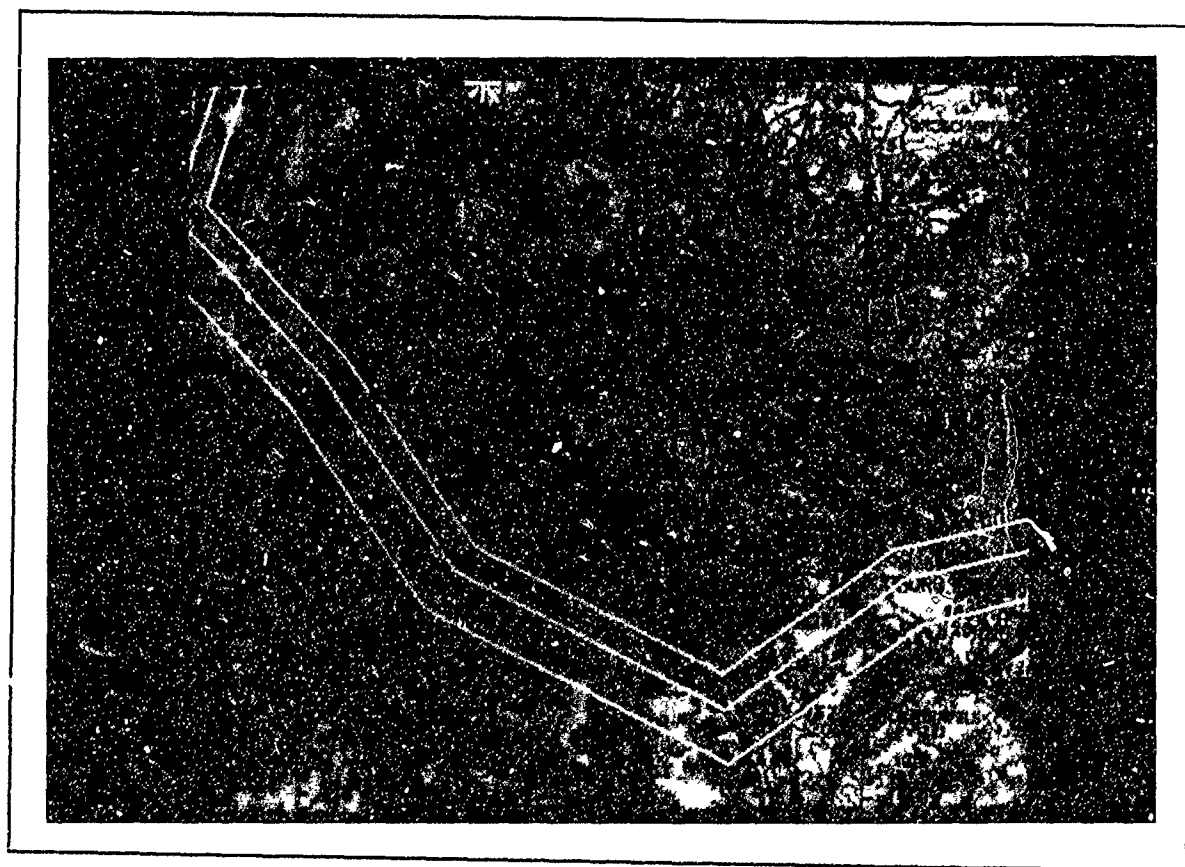
B. Scenario



C Zoom



D. Magnify

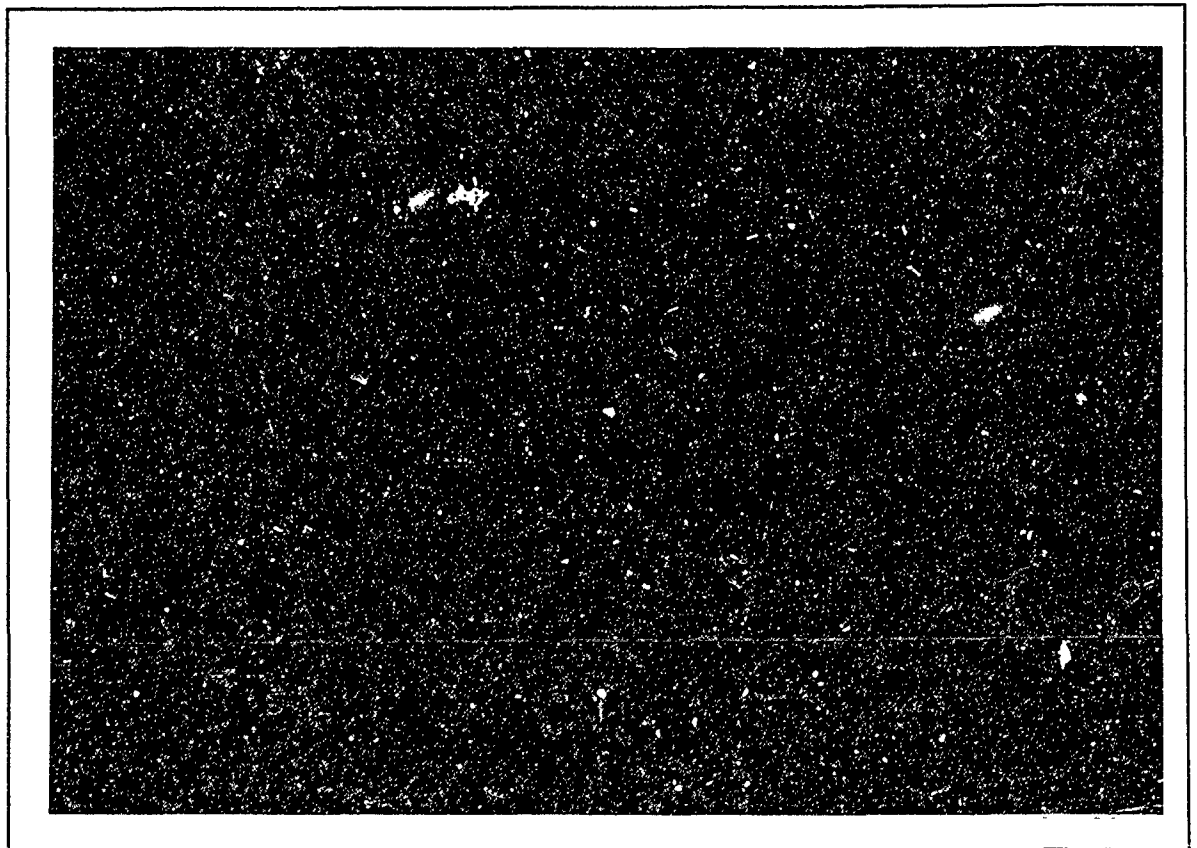


E. Intensity

F. Jump to

G. Roam

H. Gray map



I. Slide Map

J. Location

LESSON 5 CREATING MINIMUM RISK ROUTES
NOTE TAKING SHEET NO. 5

I. INTRODUCTION

II. TASKING

A. The tasking form

B. Database changes

C. Checking

III. ROUTING

A. Penetration Altitude

B. Creation

C Save

IV. OUTPUT

A. Analysis

TASKING INPUT FORM

APPENDIX/CHARLIE/ATTK//

RESOURCES/-//

UNIT/LOCN/TYPAC/NR/SORTIES/DIV1/DIV2/NOTES//
ALPB198/ALPB/AH-64A/20/40/-/-/-//
BRUE9/BRUE/AH-64A/20/40/-/-/-//
SORTISUM/80//

APPENDIX/DELTA/ATTK//

UNIT/MSNNR/OBJ/TGT/TOT/NLT/TYPAC/NR/SCL/NOTES//
ALPB198/01LC301/36/ATTK1/1910/1914/AH-64A/6/16HELLFIRE/1//

ALPB198/01LC302/36/ATTK2/1915/1919/AH-64A/6/16HELLFIRE/1//

ALPB198/01LC303/36/ATTK3/1920/1924/AH-64A/6/16HELLFIRE/1//

BRUE9/01LC304/36/ATTK4/1925/1929/AH-64A/6/16HELLFIRE/1//

BRUE9/01LC305/36/ATTK5/1930/1934/AH-64A/6/16HELLFIRE/1//

BRUE9/01LC320/36/ATTK6/1930/1934/AH-64A/6/16HELLFIRE/1//

SORTISUM/ALPB198/18//

SORTISUM/BRUE9/18//

SORTISUM/36//

NOTES//
1/TOT-WINDOW/1900-TO-1950//

PROCEDURE FOR ADDING NEW TARGETS

- ADD A TARGET TO THE TGT TABLE AT THE NEW LATITUDE/LONGITUDE
- ADD A DMPI RECORD OF THE SAME TYPE OF ATTACK TO A NEW DMPI ID (RECCE OR ATTK)
- CHANGE THE TGT ITEM OF THE NEW DMPI TO THE NEW TARGET NAME
- CHANGE OR ADD A TASKING LINE TO THE TASKING FORM USING THE NEW DMPI AND TARGET

PROCEDURE FOR MOVING OR ADDING HELICOPTER UNITS

- IF THERE IS NO BASE RECORD IN THE BASE TABLE FOR THE LOCATION AT WHICH THE HELICOPTER UNIT IS, COPY ANOTHER BASE AND CHANGE THE LAT/LON (ITEM X).
- IF THERE IS NO AIRS UNIT FOR THE HELICOPTER UNIT, CREATE ONE BY COPYING AN EXISTING AIRS UNIT AND MODIFYING THE BASE AND NUMBER OF HELICOPTERS AVAILABLE ITEMS.
- IF THERE IS A UNIT, CHANGE THE BASE ITEM TO THE BASE NAME AT THE NEW LOCATION.
- MODIFY THE TASKING FORM USING THE NEW AIRS UNIT (IF ADDING A NEW UNIT).

PENETRATION POP-UP MENU

PENETRATION -- SELECT ONE

| | | | | |
|-------|---|---|---------|------|
| LEVEL | 1 | : | 50. 00 | FEET |
| LEVEL | 2 | : | 75. 00 | FEET |
| LEVEL | 3 | : | 100. 00 | FEET |
| LEVEL | 4 | : | 150. 00 | FEET |
| LEVEL | 5 | : | 200. 00 | FEET |

EXIT THIS MENU

DETAILED ROUTE ANALYSIS (1)

RMSRP -- ARRAY NISN -- POSSIBLE MISSIONS FOR TARGET ARNSTAD (3)
 MISSION NUMBER - 1 OMPI - RECE3
 WEAP SOLUTION - 0 X OH-58D - 1 X PHOTO SCL - RECOE
 STAGING BASE - BRVE RECOVERY BASE - BRVE ALTERNATE - ALPB
 INGRESS LLTR /LN03 X-ON(240)/
 EGRESS LLTR /LN03 X-ON(240)/
 FUEL REQUIRED / 614.2 / COMBAT RESERVE VIOLATION
 TIMING:(TAKE OFF/IN-TANKER/IN-FEBA / TOT /EG-FEBA /EG-TANKER/ RECOVER)
 (1721 / 1721 / 1739 / 1800 / 1823 / 1840 / 1840)
 INGRESS DISTANCE / 67. NM INGRESS DANGER / 78.82
 EGRESS DISTANCE / 67. NM EGRESS DANGER / 78.82
 LOCATION PREFERENCE - WILL NOT BE CONSIDERED
 M-ON-N RESULT - THIS MISSION WAS CHOSEN

| TIME | LATITUDE/LONGITUDE | ALT | HDS | NODE | DIST | DANGER |
|------|--------------------|-------|-----|-----------|------|---------|
| 0.0 | 32U NA642595 | 50.0 | 311 | BRVE | 7.63 | 0.1144 |
| 0.0 | 32U NA534686 | 50.0 | 033 | TRC3 | 8.31 | 0.1244 |
| 0.0 | 32U NA516817 | 100.0 | 099 | WAYPOINT | 6.46 | 0.0968 |
| 3.2 | 32U NA734800 | 100.0 | 056 | WAYPOINT | 6.32 | 0.0949 |
| 6.4 | 32U NA831867 | 100.0 | 032 | LN03 X-ON | 0.56 | 0.0084 |
| 6.7 | 32U NA936875 | 100.0 | 090 | WAYPOINT | 6.94 | 0.3219 |
| 10.1 | 32U NA965878 | 100.0 | 045 | WAYPOINT | 1.41 | 0.1310 |
| 10.8 | 32U NA983997 | 100.0 | 090 | WAYPOINT | 5.94 | 5.9322 |
| 13.8 | 32U PA094999 | 100.0 | 045 | WAYPOINT | 7.03 | 0.5774 |
| 17.3 | 32U PA184993 | 100.0 | 000 | WAYPOINT | 2.00 | 0.1747 |
| 18.3 | 32U PB193030 | 100.0 | 045 | WAYPOINT | 7.03 | 0.4498 |
| 21.8 | 32U PB272125 | 100.0 | 000 | WAYPOINT | 5.00 | 0.2784 |
| 24.3 | 32U PB270218 | 100.0 | 090 | WAYPOINT | 1.97 | 20.8026 |
| 25.3 | 32U PB307217 | 100.0 | 026 | WAYPOINT | 2.23 | 35.0828 |
| 26.4 | 32U PB324256 | 100.0 | 045 | WAYPOINT | 1.40 | 14.8040 |
| 27.1 | 32U PB342275 | 100.0 | 013 | WAYPOINT | 2.06 | 0.0929 |
| 28.2 | 32U PB350313 | 100.0 | 193 | ARNSTAD | 2.06 | 0.0829 |

DETAILED ROUTE ANALYSIS (2)

| | | | | | | | |
|----------------------------|-----|----------|-------|-----|-----------|------|-------------------------|
| 29.2 | 32U | PR342275 | 100.0 | 225 | WAYPOINT | 1.40 | 14.9040 |
| 29.9 | 32U | PR324256 | 100.0 | 206 | WAYPOINT | 2.23 | 35.0828 |
| 31.0 | 32U | PR307219 | 100.0 | 270 | WAYPOINT | 1.97 | 20.8025 |
| 32.0 | 32U | PR270218 | 100.0 | 190 | WAYPOINT | 5.00 | 0.2784 |
| 34.5 | 32U | PR272125 | 100.0 | 225 | WAYPOINT | 7.03 | 0.4498 |
| 38.0 | 32U | PR183030 | 100.0 | 180 | WAYPOINT | 2.00 | 0.1747 |
| 39.0 | 32U | PA184993 | 100.0 | 225 | WAYPOINT | 7.03 | 0.5774 |
| 42.5 | 32U | PA094899 | 100.0 | 270 | WAYPOINT | 5.94 | 5.9322 |
| 45.5 | 32U | NA983897 | 100.0 | 225 | WAYPOINT | 1.41 | 0.1310 |
| 46.2 | 32U | NA965878 | 100.0 | 270 | WAYPOINT | 6.94 | 0.3219 |
| 49.7 | 32U | NA936875 | 100.0 | 212 | WAYPOINT | 0.56 | 0.0084 |
| 50.0 | 32U | NA831867 | 100.0 | 236 | LN03 X-ON | 6.32 | 0.0949 |
| 53.1 | 32U | NA734800 | 100.0 | 279 | WAYPOINT | 6.46 | 0.0968 |
| 56.3 | 32U | NA616817 | 50.0 | 213 | WAYPOINT | 8.31 | 0.1244 |
| 56.3 | 32U | NA534686 | 50.0 | 131 | TRC3 | 7.63 | 0.1144 |
| 56.3 | 32U | NA642595 | 50.0 | 131 | BRVE | 0.00 | 0.0000 |
| TOTAL DISTANCE = 144.54 NM | | | | | | | TOTAL DANGER = 158.1532 |

THREATS ENCOUNTERED BY MISSION

| THREAT ID | MODEL ID | TYPE | LATITUDE/LONGITUDE | RANGE |
|-----------|----------|------|--------------------|-------|
| A3A | SA-3 | SAM | 32U NB83303393 | 32.00 |
| A1A | SA-11 | IR | 32U NB94102113 | 17.00 |
| A3B | SA-3 | SAM | 32U NA99229898 | 32.00 |
| A5A | SA-6 | SAM | 32U PA26579215 | 18.50 |
| A01 | SA-8 | SAM | 32U PA11318625 | 9.00 |
| A8A | SA-8 | SAM | 32U NB96760450 | 9.00 |
| A5B | SA-6 | SAM | 32U NB76452085 | 18.50 |
| A4C | SA-14 | IR | 32U NB86140431 | 6.00 |
| A02 | 57MM GUN | AAA | 32U PA05249354 | 3.30 |
| A03 | SA-8 | SAM | 32U PA21968648 | 9.00 |
| A1D | SA-11 | IR | 32U PB09700651 | 17.00 |
| A04 | ZSU-23-4 | AAA | 32U PB30472562 | 3.10 |
| A1E | SA-11 | IR | 32U NB84721912 | 17.00 |
| A6E | SA-5 | SAM | 32U PB13161039 | 18.50 |
| A8C | SA-8 | SAM | 32U PA08759546 | 9.00 |
| E01 | SQUATEYE | ACQ | 32U NB82163206 | 29.23 |

LESSON 6 MODIFYING ROUTES WITH CHAPS
NOTE TAKING SHEET NO. 6

I. INTRODUCTION

II. GETTING IN

A. Menus

B. Command boxes

C. Zoom

III. TEXT SUMMARY

A. First line

B. Second line

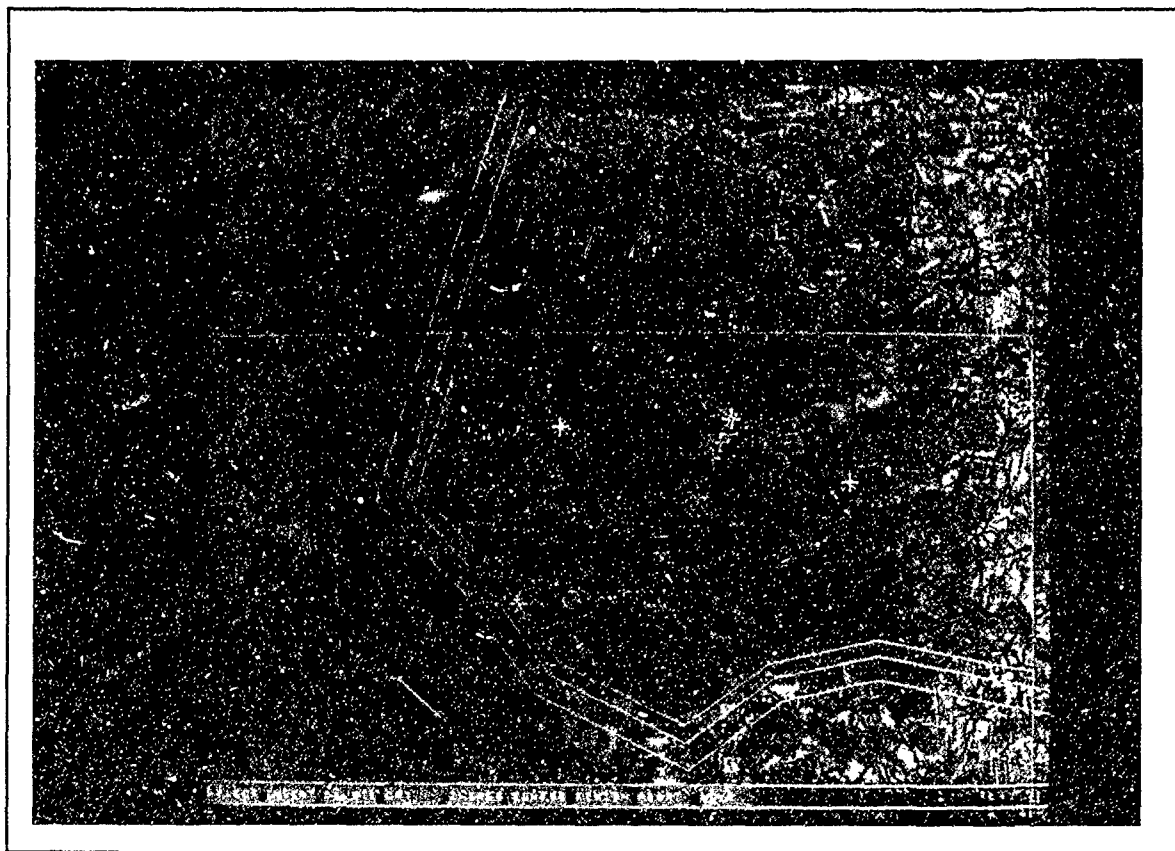
C Third line

D Messages

IV. THE MAP DISPLAY

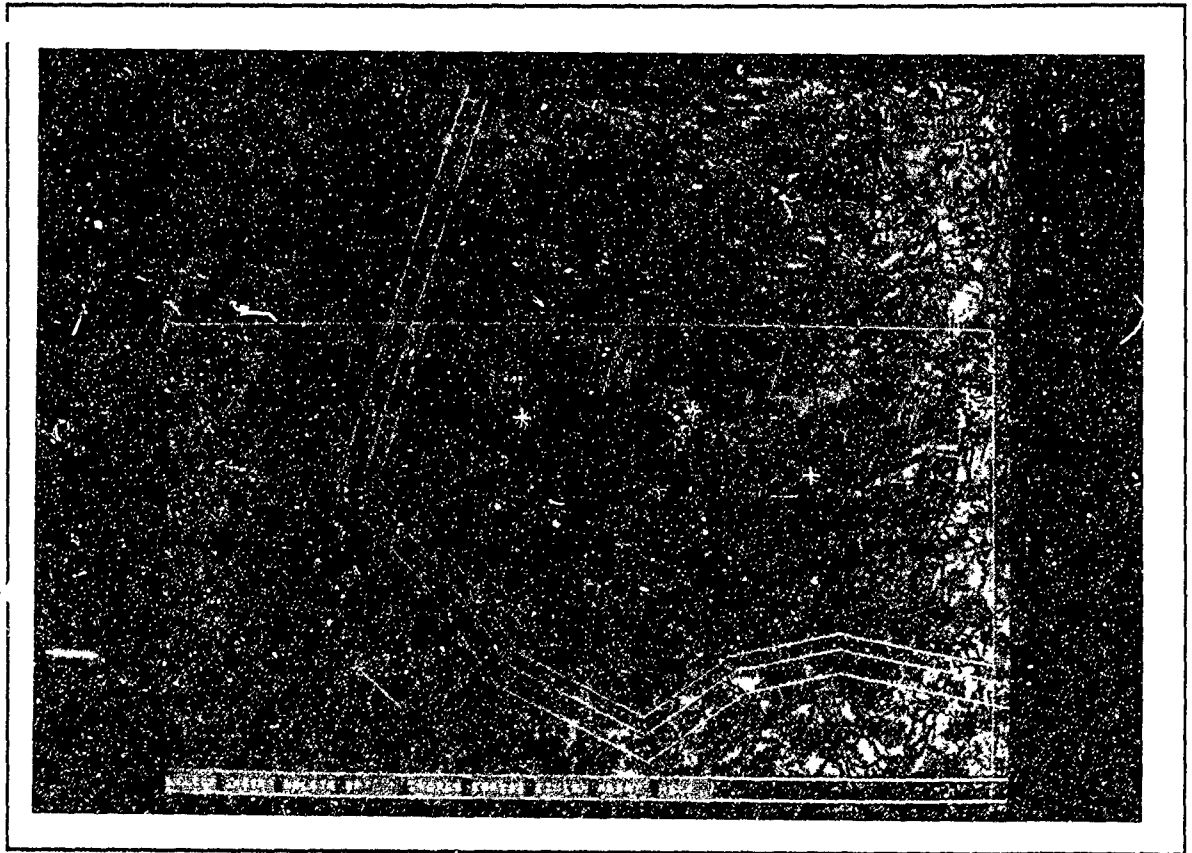
A. Selected poi..

B. Route display



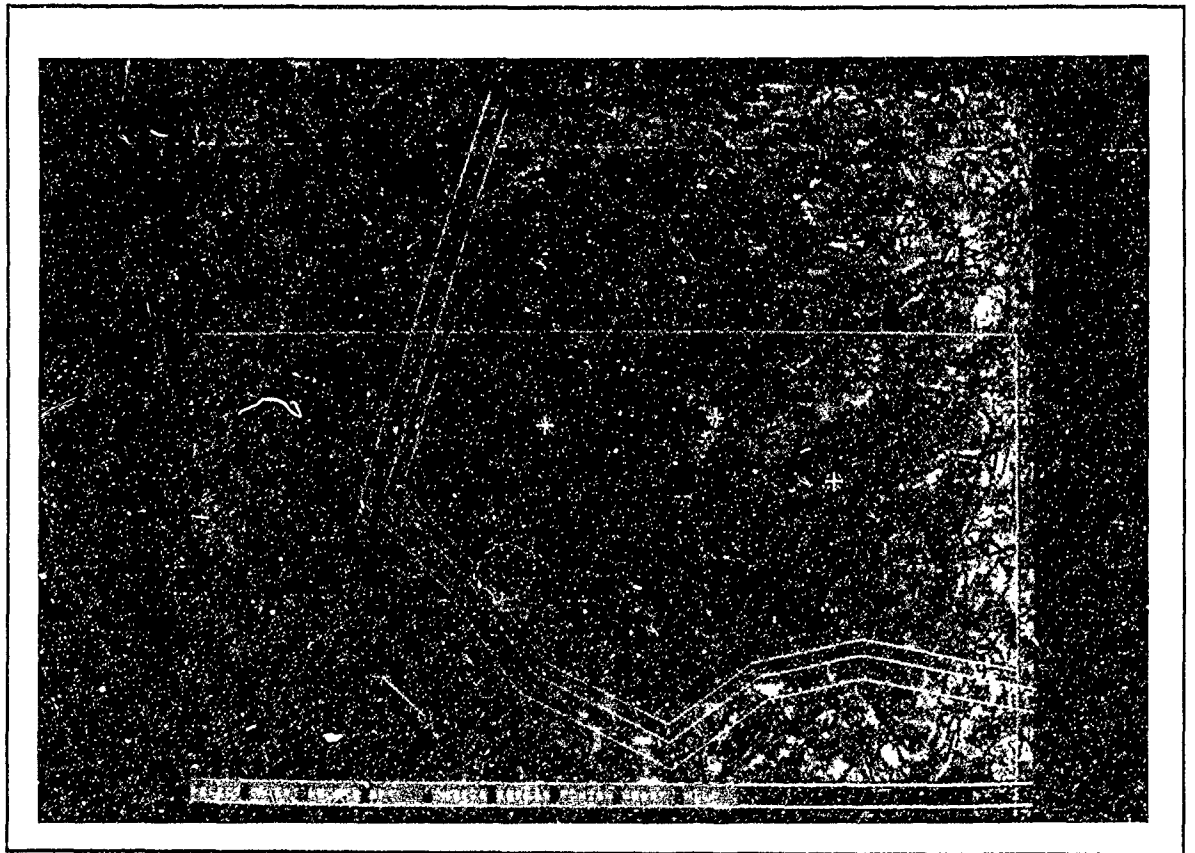
V. THE COMMAND BOXES

A. Select

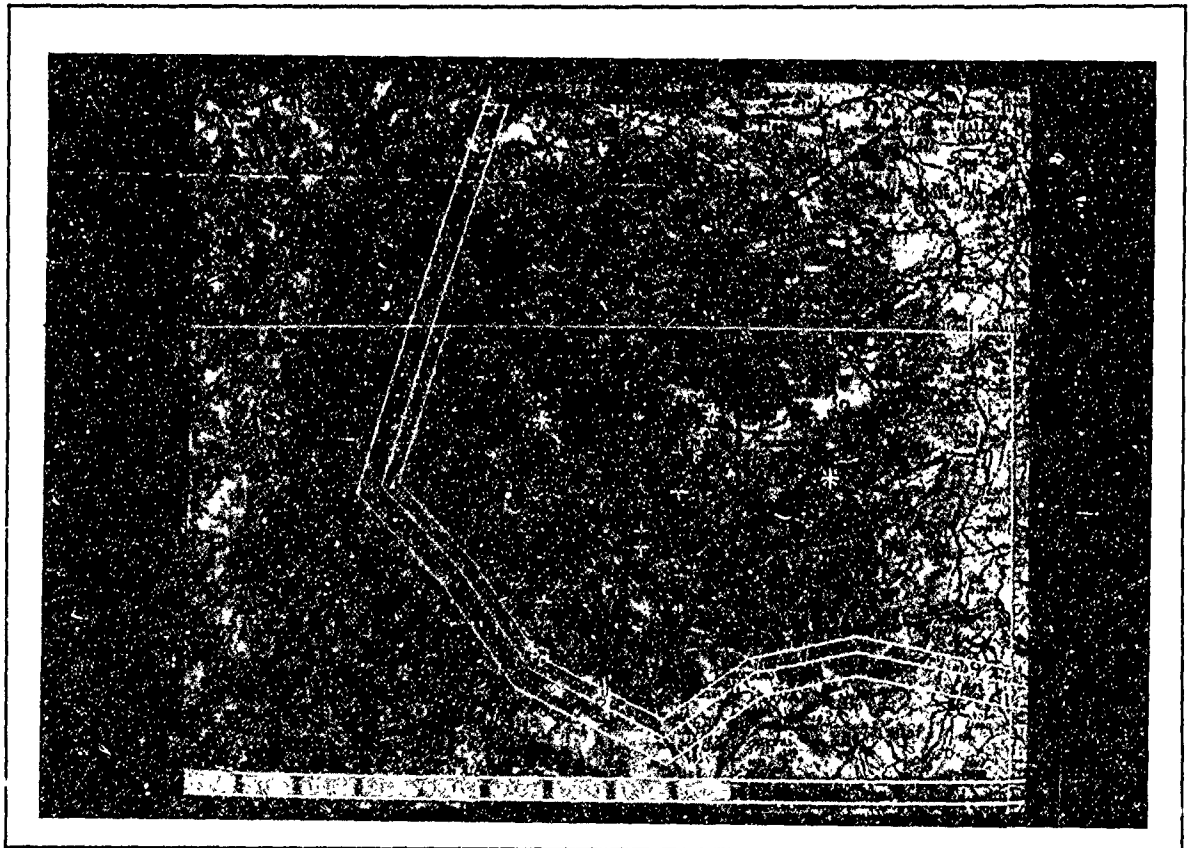


B. Insert

C Delete



D. Optimize



E. Ingress

F. Egress

G. Finish

H. Abort

I. Help

PLAN OPTIONS POP-UP MENU

PLAN OPTIONS -- SELECT ONE

ROUTE
SAVE
SHOW
SUPPORT
REROUTE
REVIEW
REPORTS
MANUAL
TIME PHASE
EXIT THIS MENU

MANUAL TEXT SUMMARY

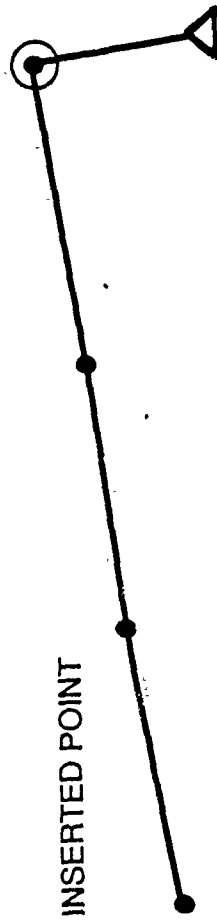
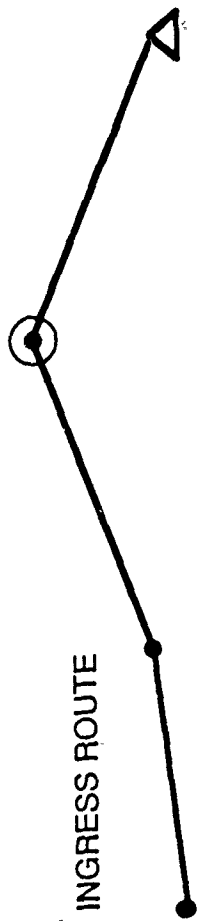
MISSION = 00LC303 OH-58D INGRESS MODE = COMMAND
WP = 1 BRVE 32U NA64265952 TIME = 0000 REM FUEL = 940
PREV LEG: FUEL USED = 000 DIST = 0.0 DANG = 0.0 HEAD = 0.0
ROUTE TOTALS: FUEL USED = 635 DIST = 144.5 DANG = 158.4

TO CHOOSE AN OPTION:
PLACE CROSSHAIRS IN COMMAND BOX & HIT A BUTTON ON MOUSE

INGRESS PORTION OF ROUTE DISPLAYED

OPERATION OF INSERT AND DELETE POINTS

+ CURSOR POSITION



LESSON 7 OBSERVING MULTIPLE ROUTE COORDINATION
NOTE TAKING LESSON NO. 7

I. INTRODUCTION

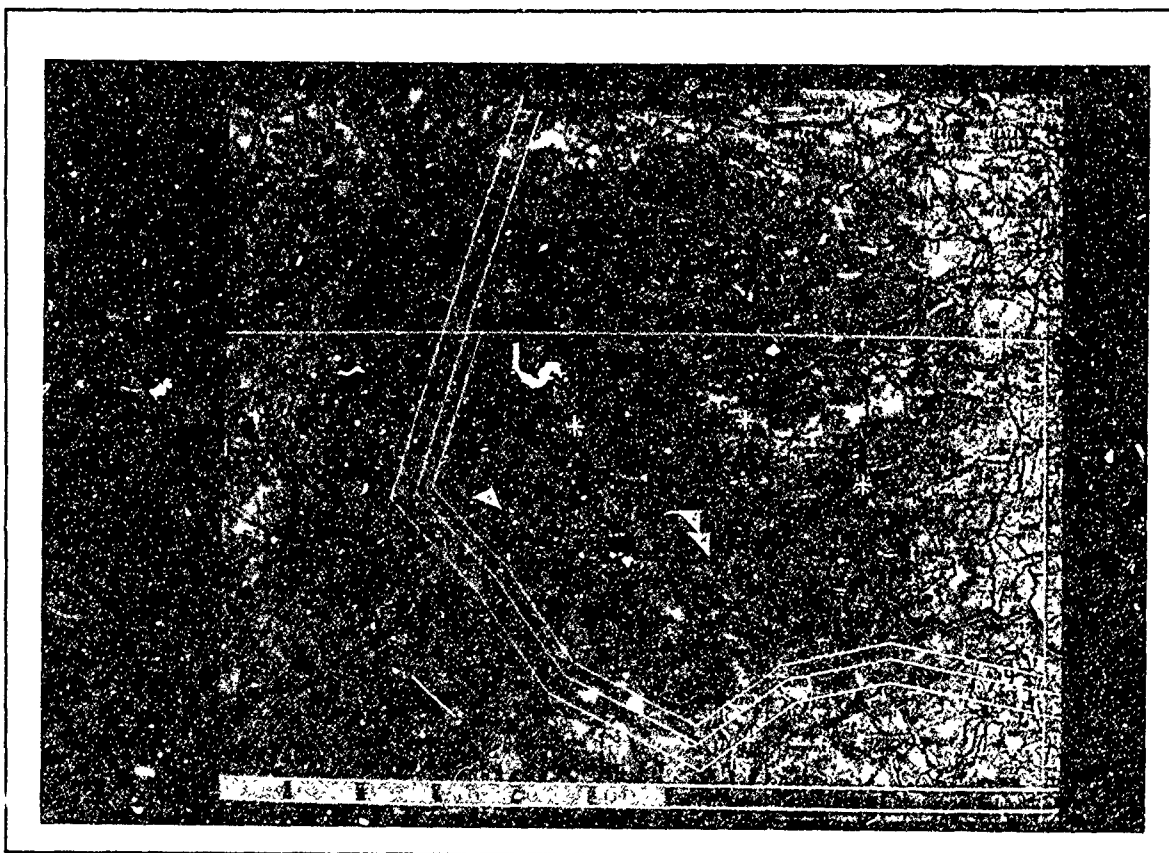
II. GETTING INTO TIME PHASE

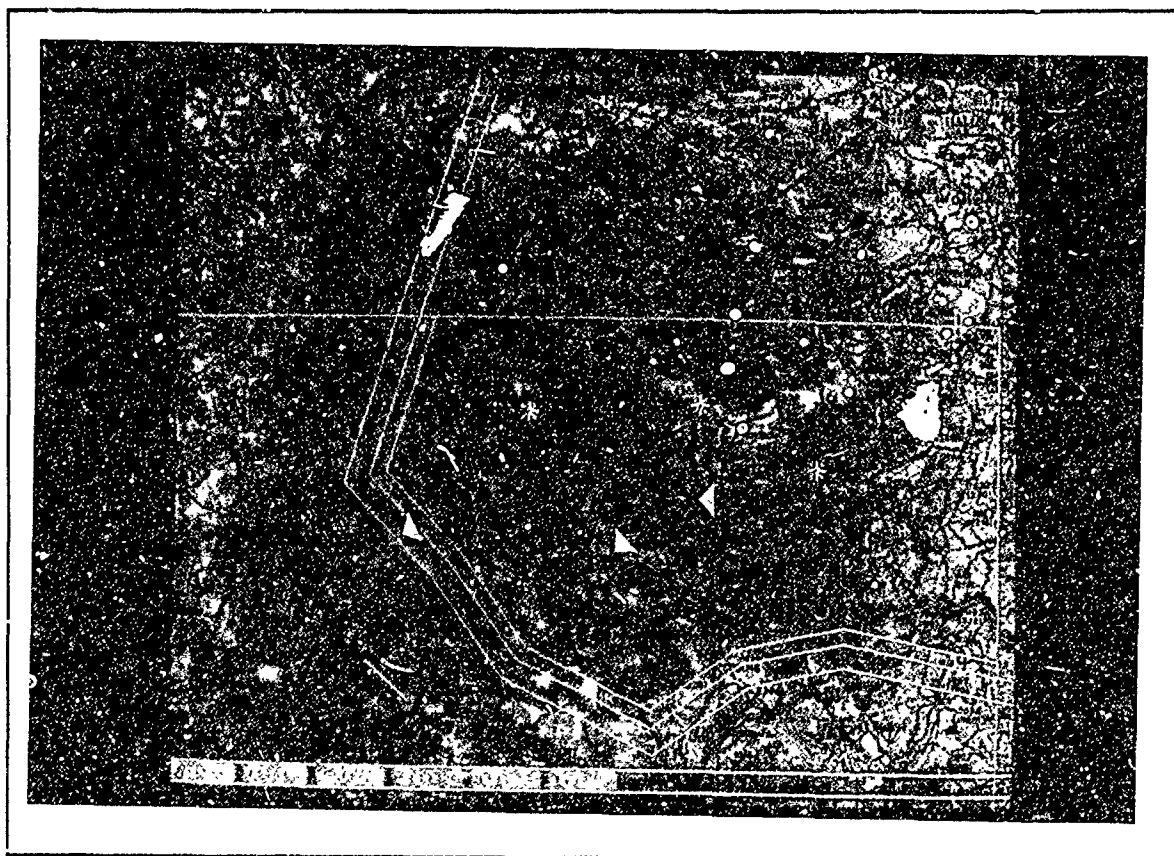
A. Menus

B. Command boxes

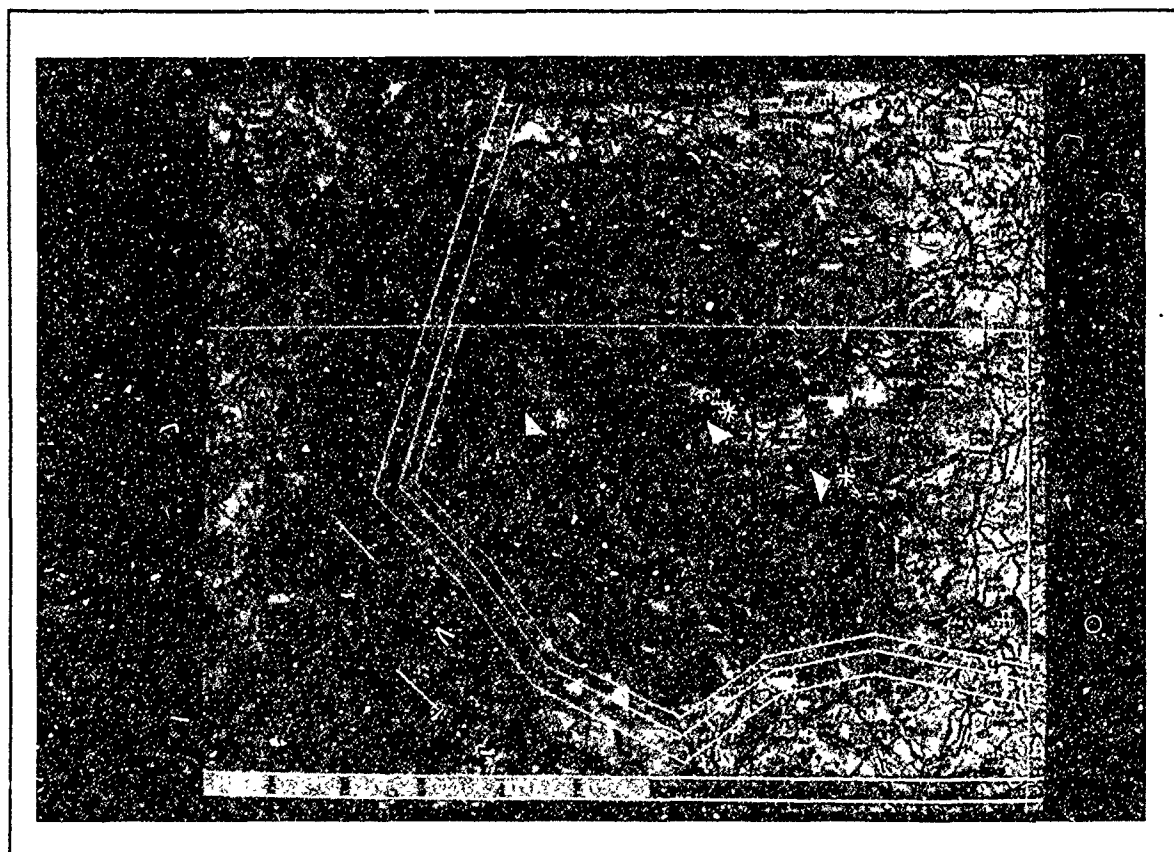
III. COMMAND BOXES

A. Advance





B. Reverse



C Start

D Increment

E Help

F Abort

IV. THE TEXT EXPLANATION

A. Display details

B. Mission numbers

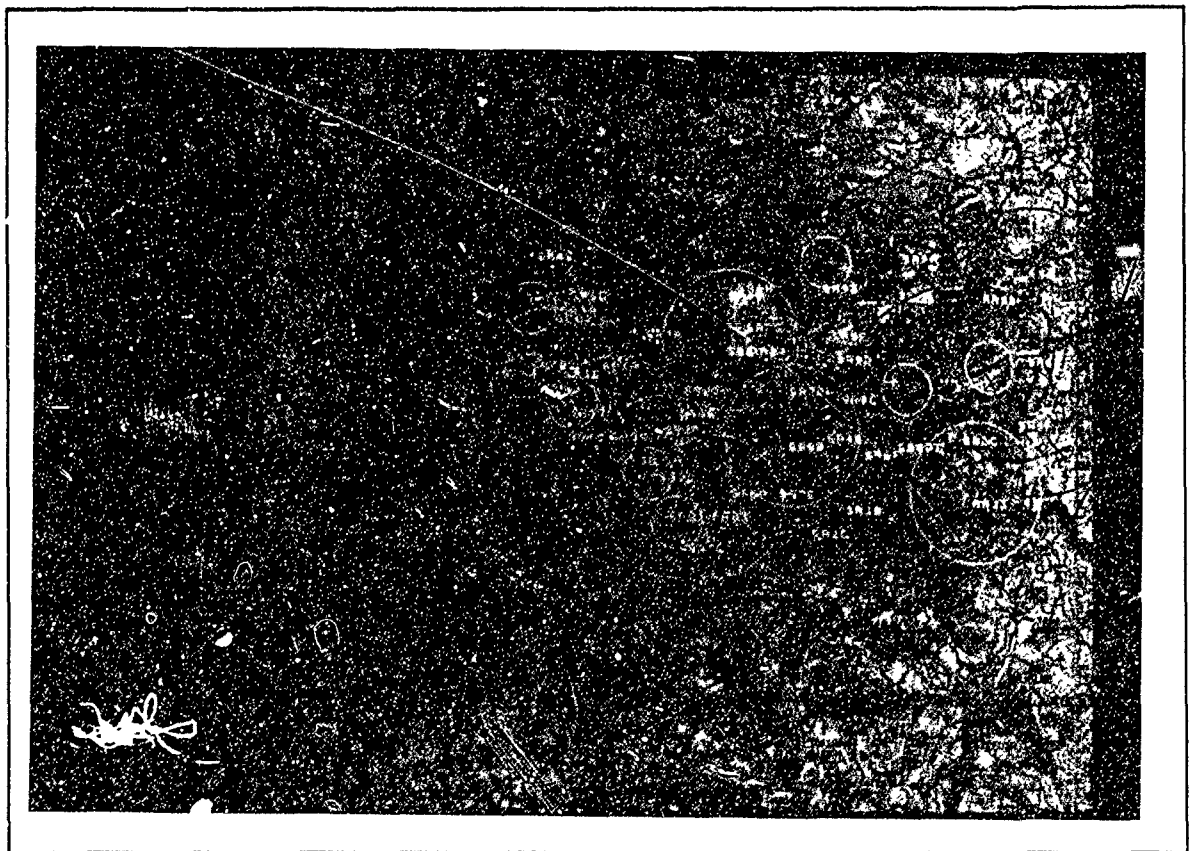
LESSON 8 SUPRESSING THREATS AND MODIFYING ROUTES
NOTE TAKING SHEET NO. 8

I. INTRODUCTION



II. THREAT SUPPRESSION

A. Threat identification



[illegible]

111

II

II

I
I

I

111

Figure 1

11

1

B. How to reroute



C Save

D. Display

LESSON 9 CREATING AND UPDATING A STATESPACE
NOTE TAKING SHEET NO. 9

I. INTRODUCTION

II. DATA SOURCES

A. ASCII file

B. LOCE

C. Updates

D. Text menus

III. CULLING AND ADDING THREATS

A. Location

B. Time of Report

C. Uncertainty

D. Movement

E. Updating

IV. MANUALLY GOVERNED PURGES

A. By type

B. By time

C. By type and time

SUPR MAIN MENU

| VP220 Terminal | | | | | | | | | | KB |
|--|---|-----|------|-----|-----|------|---|----|--|-------|
| TMDL | NREC, LREC= | 16 | 1126 | | | | | | | |
| MAS1 = | 8 | 5 | 121 | 156 | | | | | | |
| TOBS = | 3620400 | 1 | 1 | 1 | | | | | | |
| MASK = | 1 | 1 | 185 | 118 | | | | | | |
| IHDR= | 8. | 49. | 12. | 51. | 600 | 1200 | 8 | 16 | | |
| CPUTIM, WALLTIM, PAGEFLTS= 0.030 0.029 0.000 | | | | | | | | | | |
| CPUTIM, WALLTIM, PAGEFLTS= 0.040 0.070 0.000 | | | | | | | | | | |
| UNCLASSIFIED US ARMY | | | | | | | | | | |
| SUPR MAIN : SELECT COMMAND P. 1 OF 1 | | | | | | | | | | |
| -----+----- | | | | | | | | | | |
| F1--DATABASE | - DATA BASE COMMANDS | | | | | | | | | (DA) |
| F2--UPDATE | - UPDATE THREAT SCENARIO | | | | | | | | | (UP) |
| F3--PURGE | - PURGE THREATS FROM SCENARIO | | | | | | | | | (PU) |
| F4--LOCE | - PREPROCESS LOCE INTELL DATA | | | | | | | | | (LO) |
| F5--SPECIAL | - SPECIAL PROGRAMMER OPTIONS | | | | | | | | | (SP) |
| F6--QUIT | - EXIT SUPR | | | | | | | | | (QU) |
| -----+----- | | | | | | | | | | |
| S1--HELP | :S2--NEXT PAGE :S3--GO TO 1ST PAGE :S4--FIND A STRING | | | | | | | | | |
| S5--GO TO PAGE | :S6--GRAPHICS ON/OFF:S7--MAIN MENU :S8--MENU BACKUP | | | | | | | | | |
| -----+----- | | | | | | | | | | |
| UNCLASSIFIED US ARMY | | | | | | | | | | |

THREAT LOCATION INFORMATION

| | | |
|---------------|--------------------------|----------------------------|
| SA7A 1200M | SA-7 1000M 090.0 | 010203Z504900.0N0102900.0E |
| SA3A 800M | SA-3 600M 175.0 | 010203Z505100.0N0101100.0E |
| SA1A 1000M | SA-11 600M 350.0 | 010203Z504400.0N0102000.0E |
| SA4A 900M | SA-14 500M 040.0 | 010203Z503800.0N0101300.0E |
| SA7C 800M | SA-7 600M 315.0 | 010203Z502100.0N0103800.0E |
| CA01 2000M | CONV ARM 1000M 005.0 | 010203Z503700.0N0111400.0E |
| CA02 1000M | CONV ARM 600M 090.0 | 010203Z504900.0N0105600.0E |
| AA14 600M | LAND ROLL 400M 120.0 | 010203Z504100.0N0100900.0E |
| SA9F 800M | SA-9 600M 180.0 | 010203Z504900.0N0110800.0E |
| GE01 750M | SQUATEYE 500M 340.0 | 010203Z505000.0N0101000.0E |
| SA66 900M | SA-6 600M 180.0 | 010203Z505300.0N0101300.0E |
| AA15 900M | FLAP WHEEL 800M 020.0 | 010203Z503800.0N0101300.0E |

THREAT UPDATE RULES

| CASE | SUPR ACTION |
|--|---|
| Identical report Same report with minor modification Same report with significant movement | Ignored, no change to statespace. If location change is small and threat type is squatter or fixed, update uncertainty and time of report. Do not recalculate statespace. Considered as two entities and added into the statespace. |
| All threats inside the statespace are purged from the statespace by LOCE when twice the dwell time of their threat type has passed since their time of last reporting. | |

PURGE TYPE MENU

KB

V1220 Terminal

UNCLASSIFIED US ARMY

UNCLASSIFIED US ARMY

PURGE : EITHER SELECT A THREAT TYPE TO PURGE OR P. 1 CF 2
SPECIFY THAT ALL THREAT TYPES ARE TO BE PURGED

| | | |
|--------------|---------------------------|-------|
| F1--ALL | - PURGE ALL THREAT TYPES | (AL) |
| F2--CONV ARM | - CONVENTIONAL ARMS | (2) |
| F3--57MM GUN | - 57MM GUIDED AA GUN | (3) |
| F4--ZSU-23-4 | - ZSU-23-4 MOBILE AA GUN | (4) |
| F5--SA-2 | - SA-2/FAN SONG SAM | (5) |
| F6--SA-3 | - SA-3/LOW BLOW SAM | (6) |
| F7--SA-4 | - SA-4/PAT HAND SAM | (7) |
| F8--SA-6 | - SA-6/STRAIGHT FLUSH SAM | (8) |

| | | | |
|----------------|----------------------|---------------------|--------------------|
| S1--HELP | :S2--NEXT PAGE | :S3--GO TO 1ST PAGE | :S4--FIND A STRING |
| S5--GO TO PAGE | :S6--GRAPHICS ON/OFF | :S7--MAIN MENU | :S8--MENU BACKUP |

UNCLASSIFIED US ARMY

PURGE TIME MENU

KB

VT220 Terminal

 S1--HELP :S2--NEXT PAGE :S3--GO TO 1ST PAGE :S4--FIND A STRING
 S5--GO TO PAGE :S6--GRAPHICS ON/OFF:S7--MAIN MENU :S8--MENU BACKUP

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UNCLASSIFIED US ARMY

PURGE TIME EITHER ENTER DATE/TIME FOR PURGING P. 1 OF 1
 OBSOLETE THREATS OR SPECIFY THAT THREATS ARE
 TO BE PURGED REGARDLESS OF OBSOLESCENCE

F1--WHENEVER - PURGE THREATS REGARDLESS OF LAST REPORT TIME (WH)

S1--HELP :S2--NEXT PAGE :S3--GO TO 1ST PAGE :S4--FIND A STRING
 S5--GO TO PAGE :S6--GRAPHICS ON/OFF:S7--MAIN MENU :S8--MENU BACKUP

DATE/TIME SPECIFIES DAY OF MONTH, HOURS, MINUTES (ZULU); AND MUST
 CONSIST OF EXACTLY 6 DIGITS WITH NO SPACES: ddhhmm (example: 071200)

UNCLASSIFIED US ARMY